ARCHITECTURAL RECORD

FEBRUARY 1957

BUILDING TYPES STUDY 243 : INDUSTRIAL

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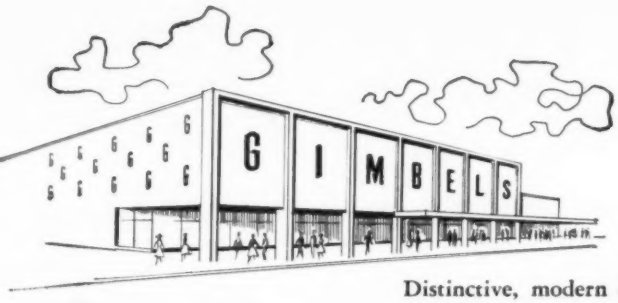
in the Southgate Shopping Center...



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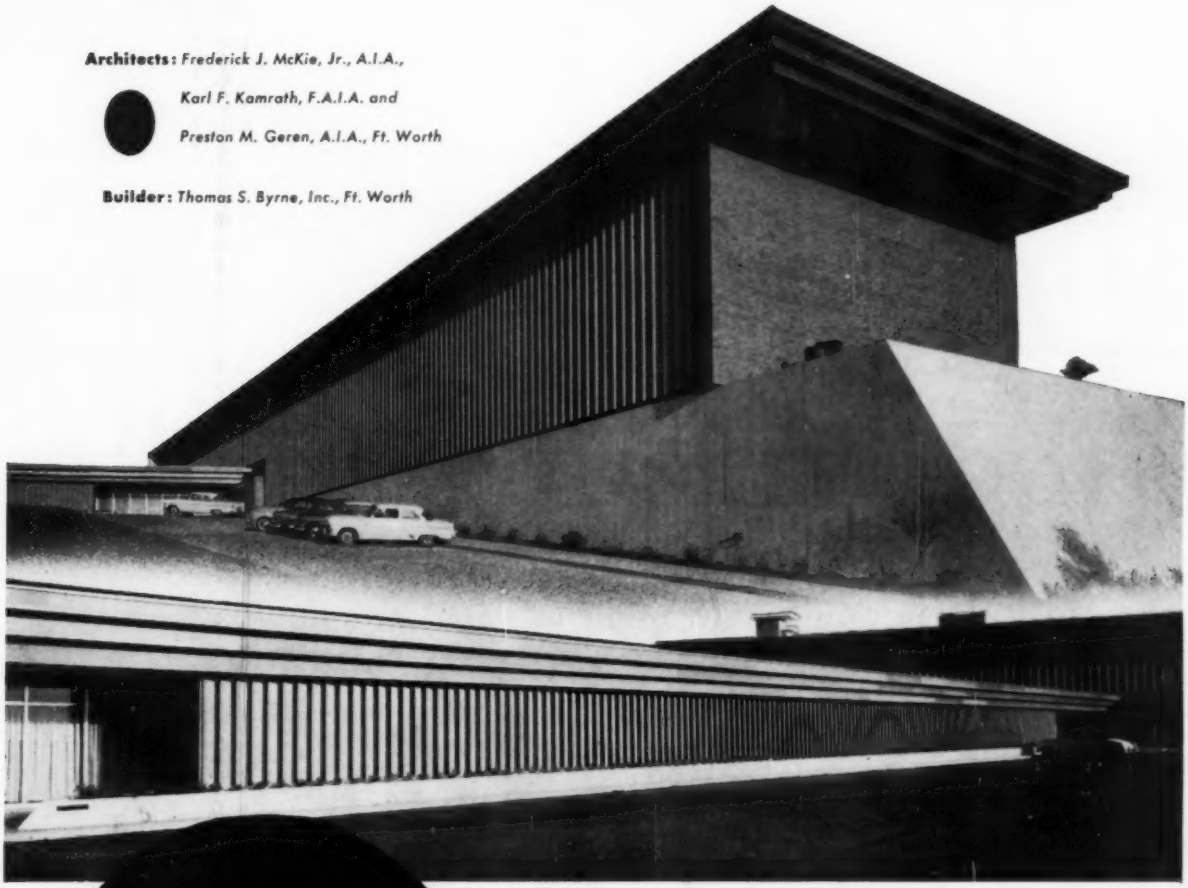
Architects: *Frederick J. McKie, Jr., A.I.A., Karl F. Kamrath, F.A.I.A. and Preston M. Geren, A.I.A., Ft. Worth*

Builder: *Thomas S. Byrne, Inc., Ft. Worth*



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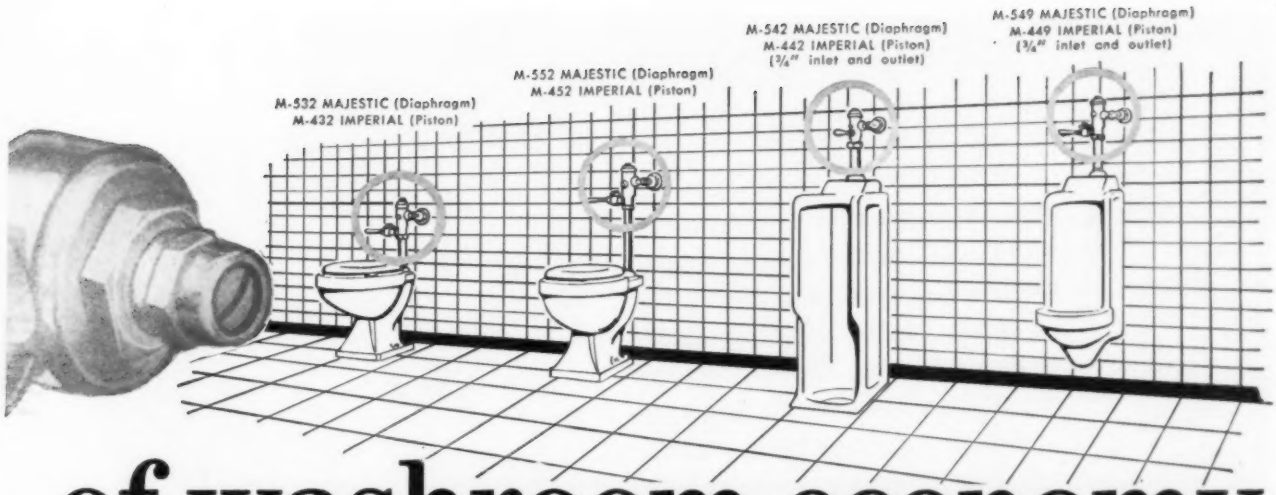

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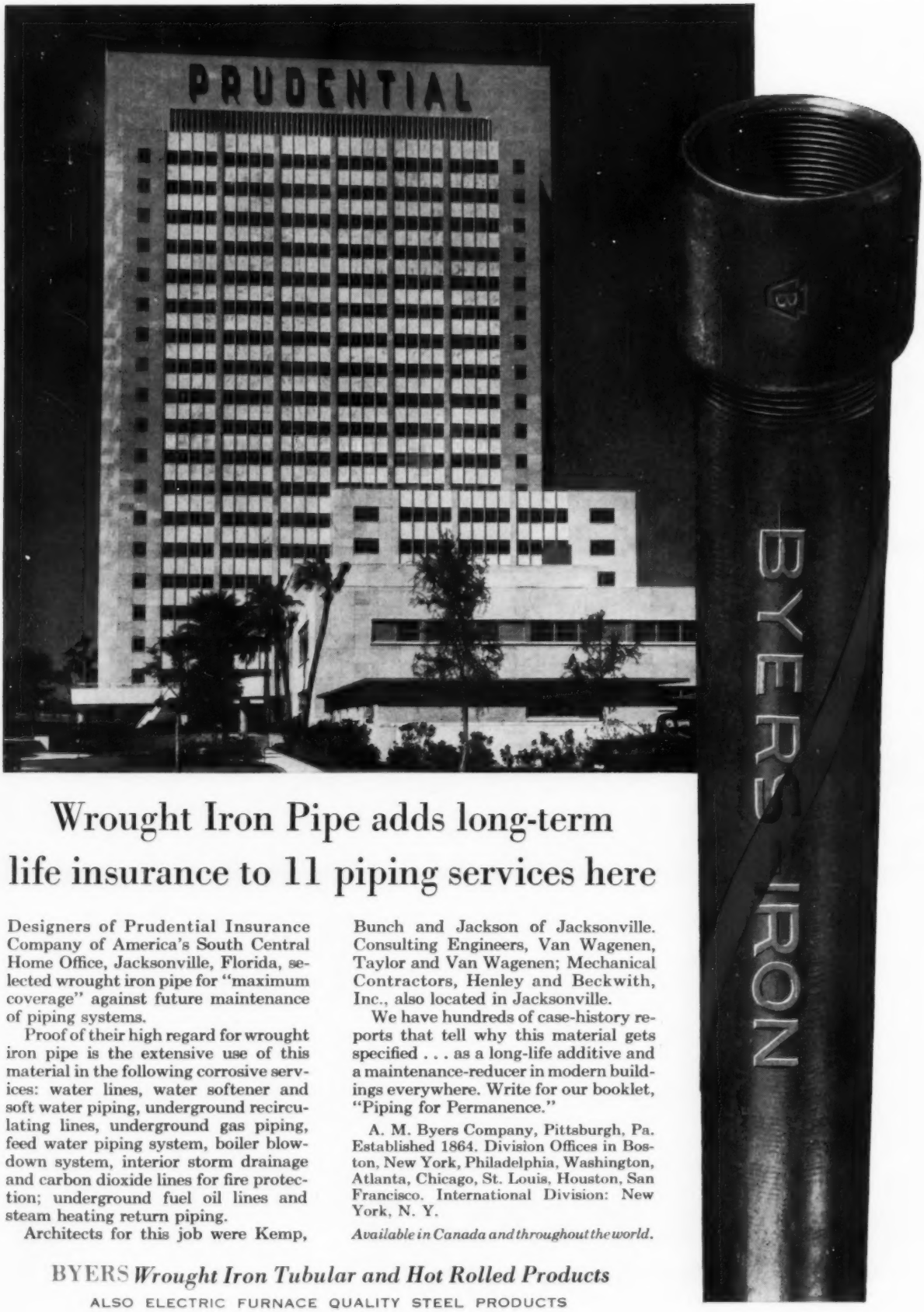

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February 1957 Vol. 121 No. 2

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THE RECORD REPORTS

PERSPECTIVES

INAUGURAL FOOTNOTE: The grandstand from which President Eisenhower reviewed the Inaugural Parade which helped to launch his second term in office last month was not — though it might have been — the design of Ernest L. Daly, winner of this year's edition of the Inaugural grandstand design competition which has become a tradition in the Washington-Metropolitan Chapter of the A.I.A. Chapter President Grosvenor Chapman reports that the competition was held as usual, Mr. Daly's design was selected as the winner, and Inaugural Chairman Robert Fleming duly apprised; but before the existence of the new design had even been mentioned to the President, *he* had disposed of the grandstand question by asking what was wrong with the other one? — so the 1953 competition winner by Robert A. Weppner Jr. had a reprise.

ANOTHER PART OF THE FOREST: To nobody's surprise, the talk about Frank Lloyd Wright's Mile High Illinois proposal goes on apace even if construction doesn't, and there are views (AR, Jan. 1957, page 9) and views — for example, the A.I.A. Chicago Chapter monthly *Bulletin*, devoting a page to the project, with such comments as these: "Architecture was front page news, and its greatest publicist had done another superb drawing in superlatives that even modified would still be awe inspiring, and inspiring to all and aspiring to anything. That this particular building is at all practical or possible is much less the point than that we have a man in our profession who dares, who cares and does, and is so able to say so much in his work and with his words both. . . . The bold statement in work and words are his, uncompromised, uncompromising. We need someone prodding us to keep us from just plodding along, building out of prosperity instead of into posterity. . . ."

THE BEST WE CAN DO AS ARCHITECTS, Maxwell Fry told an Architectural League of New York luncheon meeting in his honor last month, "is to make good buildings; but after that we must make town planning a much more important part of architectural practice." Mr. Fry, who was here from England for an eight-weeks stint as a visiting critic at Harvard's Graduate School of Design, talked about some of the things he had learned from his work in "this tropical world" (of India, of West Africa) where growing nationalism and growing industrialization and a trend toward socialism make the context in which architectural problems must be approached. In particular, Mr. Fry remarked the tendency of industrialization as the great moving force in these developing parts of the world to destroy old ways and old values to the detriment of local cultures and too frequently to the inadvertent substitution of materialism. In this situation, Mr. Fry observed, architects have become "people to whom has been given a responsibility for converting such materialistic trends into something of both human and spiritual value."

THE PATRONS OF ARCHITECTURE: "Shall we not have our own bishops and princes?" asked Joseph Hudnut at the convocation on "The Next Fifty Years" which marked the fiftieth anniversary of the University of Michigan's College of Architecture and Design. "Clearly," he answered himself, "our bishops and princes are the great corporations who, for good or evil, have taken the mistress art under their somewhat ambivalent protection. I mean of course the manufacturers of steel and oil and motor cars; the huge department stores; the banks; and — with a different emphasis — the boards, committees and other agencies of government that build hospitals, schools and universities on an heroic scale. Together these sum up the will of our epoch and represent its grandeur. The House of Seagram, the Prudential Life Insurance Company, the Chase National Bank are building themselves in skyscrapers and in so doing they 'set forth in plastic terms the energies of our era.' Because they have need of that expression they will understand and cherish modern architecture. I do not mean that creatures so alive and ready to go places will forever chart their programs of building within the reasonable and disciplined tradition of modernism. On the contrary I think we may expect some very surprising exploitations of industrial technology and invention. Corporations have to think a great deal about the important but often nebulous form of diplomacy they call *public relations;* and this diplomacy includes advertisement and promotion. Skyscrapers are created, like millinery, to be talked about; like mink and diamonds they announce the status and wealth of those they clothe; and they must be in the fashion. Our new architecture therefore may some day melt into a steel-and-glass baroque. And since a baroque architecture cannot live without the decorative arts these too will free themselves from their present imprisonment and flower anew in an uninhibited humanism. The arts, as we know, change together. They change in echelon, poetry and painting one step ahead of architecture. Nor should I call such a baroque a disaster. I need no further sanction for my faith in corporations than the recent buildings of the Technical Center near Detroit, or the new buildings of the Illinois Institute of Technology and the New Campus of the University of Michigan. Such noble simplicities renew our faith in ourselves and our time."

LIGHT, STRONG AND FREE:

BICYCLE WHEEL ON COLUMNS SPANS 300 FT TO ENGINEER A CRYSTAL AND GOLD PAVILION FOR U. S. AT BRUSSELS

Edward D. Stone's design for the U. S. building at the Brussels World's Fair 1958 will set in the shallow natural amphitheater of an irregularly-shaped site a translucent and shimmering building with spectacular interior spaces made possible by a structural system adapted from that of the roof of the Roman Coliseum. The design has now had all the necessary approvals from official sources, and construction is expected to get under way this month or next.

The structure will be both extremely light and extremely strong. Two concentric rings of steel columns 12 in. in diameter will support a roof constructed like a bicycle wheel, with an outer compression ring of reinforced concrete connected to an inner metal ring 60 ft in diameter and 24 ft deep by two layers of high tension steel cables 2¼ in. thick, for a clear span of 300 ft: one of the largest circular buildings of all time. The structure of the Coliseum (larger, but elliptical) lacked the inner drum. The roof structure of the Brussels building will carry "almost no load" except the live load imposed by the elements.

An outer covering of translucent plastic will rest on the upper roof cables; a ceiling of metal mesh, continually luminous either with natural or artificial light, will be suspended below. Honeycomb walls of transparent or translucent plastic cells will be hung free from the outer rim of the roof structure between the rings of columns. All the exposed structural members will be sheathed in gold-anodized aluminum or gold leaf.

The U. S. site in Brussels adjoins those of the Soviet Union, Bulgaria and the Vatican. Its development has been carefully designed to provide for the U. S. building a setting of park, gardens and — facing the main entrance — a great plaza dominated by an elliptical pool. Near the main entrance it is planned to have an outdoor cafe serving traditional American food specialties.

The main building itself is a two-level exhibition pavilion measuring 381 ft in its widest dimension and 95 ft in its highest, with a "water garden" 150 ft in diameter as its center. This interior garden, framed with existing willow trees, will have sculpture and fountains.

The ground floor, in effect scooped out of the natural bowl of the site, will provide a 60-ft-wide strip of apisdal exhibition space around the water garden. Various services and general offices are grouped around the perimeter. Ceiling height here will be just over 12 ft for contrast with the great and lofty space above.

The upper level is 50 ft from floor to ceiling; the plan again is a 60-ft-wide strip overlooking the water garden in its center; but here the translucent walls are all the enclosure of the perimeter, and a strip of sliding glass doors also opens the whole circumference — for two thirds of the way offering direct access to park and garden (at grade), for the other third to a balcony overlooking the entrance plaza and lagoon.

The smaller unit adjoining the pavilion contains a theater below ground level; above is the U. S. Commissioner's Pavilion, where distinguished visitors will be received. Howard S. Cullman, New York businessman and honorary chairman of the Port of New York Authority, is U. S. Commissioner-General to Brussels World's Fair 1958.

The Brussels project is the second instance of a State Department request to the American Institute of Architects for advice and assistance in selection of an architect and programming of a U. S. architectural project abroad. Mr. Stone was selected as architect of the Brussels project by an A.I.A. advisory committee consisting of Earl T. Heidtschmidt of Los Angeles, the then (Spring 1956) A.I.A. first vice president; A.I.A. past president Clair W. Ditchy of Detroit; Edgar Williams of New York; Richard Koch of New Orleans, and Roy Larson of Philadelphia.

TWELVE FIRST HONOR AWARDS GIVEN AT SEVENTH ANNUAL A.I.A. GULF STATES CONFERENCE

The most recent Honor Awards Competition of the Gulf States Region of the American Institute of Architects, held in conjunction with the seventh annual regional conference last Fall at Chattanooga, attracted more than fifty submissions and produced a total of 19 premiated buildings.

The report of the Jury of Award headed by Clinton H. Cowgill, F.A.I.A., of Washington, D. C., paid tribute to the "general high quality" of the submissions and to the effective presentation techniques of most of them. It also contained the following critical comments:

"One of the most common difficulties was an apparently exaggerated interest in details, leading to failures to attain unity. In some designs diverse elements, forms and materials were combined with wild abandon. Some of the drawings submitted did not adequately illustrate the thoughts of their designers. Plot plans lacked indication of points of the compass, wind direction, consideration of view, or the kind and direction of access or circulation. In some cases the boards were so crowded with drawings and photographs as to be confusing. In others the displays appeared empty; and in a few the scale was too small to be legible even with trifocals." Members of the jury besides Mr. Cowgill were Buford L. Pickens, A.I.A., of Washington University, St. Louis, and (architect and sculptor) Julian H. Harris, A.I.A., of Atlanta.

In addition to the twelve First Honor Awards, all of which are shown on this and the next page, Awards of Merit were given as follows: A. L. Aydelott and Associates, Memphis — Carter County Health Center, Elizabethton, Tenn.; Baumann and Baumann, Knoxville — University of Tennessee Memorial Research Center and Hospital, Knoxville; Barber and McMurry, Knoxville — West Knoxville Branch for Hamilton National Bank; Office of Walk C. Jones Jr., Memphis — DeSoto County Jail, Hernando, Miss.; Yandell Johnson, Little Rock — National Old Line Insurance Company Building, Little Rock; William B. Wiener and Associates, Shreveport — Uptown Commercial Center, Shreveport; A. Hays Town, Baton Rouge — Union Federal Savings and Loan Association Office Building, Baton Rouge.

1, 2

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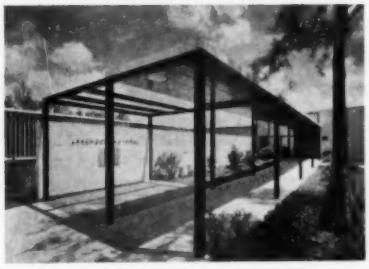
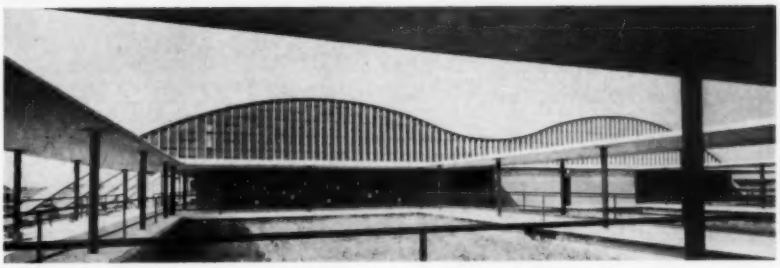




Photos by Earl Saunders

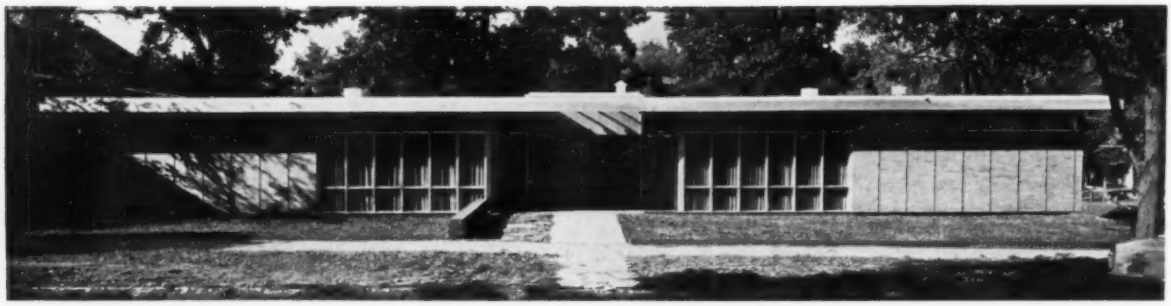
Above: four award winners by Curtis and Davis of New Orleans. 1. Arthur Q. Davis Residence and 2. John T. Upton Residence, New Orleans. 3. Lakewood Hospital, Morgan City, La. 4. Louisiana State Penitentiary, Angola, La. Below: two by Erhart, Eichenbaum and Rauch in Little Rock. Left, the firm's own offices. Right, Horace Mann High School

Photos by Frank Lotz Miller

(Continued on page 12)

GULF STATES HONOR AWARDS

(Continued from page 11)



Above: Clinic for Dr. J. L. Wishik and Dr. H. J. Goldstein, Montgomery, Ala.; Donald L. Horton and Martin K. Johnson and Albert L. Williams Jr., Associated Architects. Below: 1. Gretna Methodist Church, Gretna, La.; Lawrence, Saunders and Colongue, Architects. 2. Henry C. Beck Building, Shreveport, La.; Neild-Somdal Associates, Architects. 3. Tennessee Valley Branch Bank, Knoxville; Painter, Weeks and McCarty, Architects. 4. Sales and Warehouse Building for Evans Electric Supply Inc., Lafayette, La.; H. J. Lagroue, Architect. 5. Cafeteria Building, Southeastern Louisiana College, Hammond, La.: Desmond and Davis, Architects

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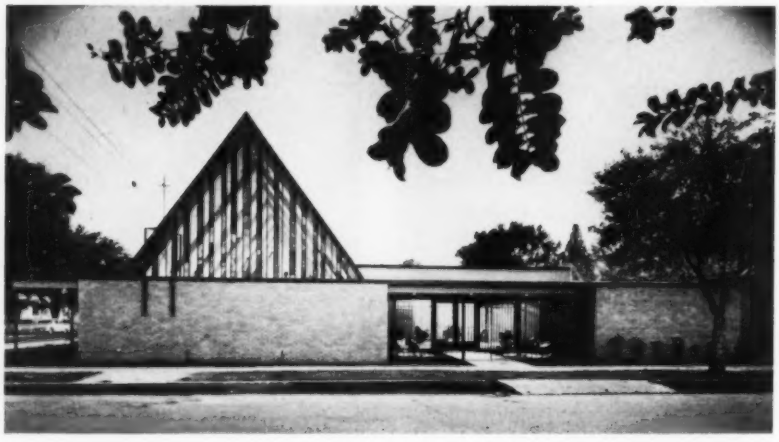

Frank Lotz Miller

Thurman C. Smith

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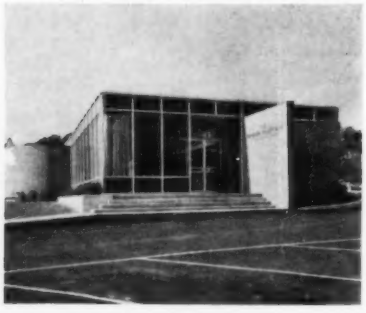

Long's Studio

5

Frank Lotz Miller

(More news on page 16)

are the BEST *vapor barriers*

CONDENSATION IS DESTRUCTIVE

Inflow or outflow of HEAT through roofs and walls causes discomfort, increases heating and cooling bills. Inflow in summer or outflow in winter of WATER VAPOR not only causes discomfort, but its condensation to liquid water fosters timber rot, peeling paint, cracking plaster, crumbling mortar, rust and corrosion. It can make sills, studs, beams and plates decay; necessitate costly recurrent repairs. Sufficient vapor is generated weekly in the average home by a family of four, to condense into 76 quarts of water!

Vapor flowing out of a building in winter also entails a heat loss. It takes 1,060 Btu's to convert 1 lb. of water to vapor. The same amount of heat (from *only* 1 lb. of vapor), will raise the temperature of the air in TWO 13′ x 14′ rooms, with 8′ ceilings, from a cold 50°F to a warm 70°F.

DENSE MOLECULAR STRUCTURE

Because of their dense molecular structure, metals have a vapor permeability of almost zero; will permit little or no vapor to pass. **Metals are the best vapor barriers.**

Fortunately, there is available an effective and inexpensive metallic barrier to vapor, which is also a most efficient thermal insulation. It consists of successive sheets of aluminum, permanently air-spaced apart, in pre-fabricated form, which open up automatically as installed. It comes in continuous lengths up to 750′; with no "breaks" every few feet for accelerating the flow of heat and of vapor. Because of its scientific construction, condensation on or within it is minimized.

Each reflective surface of each sheet of aluminum has 97% reflectivity and 3% absorptivity and emissivity for Radiation or heat-rays. (Radiation represents 50% to 93% of all heat flow through building spaces, depending on direction.) Because of multiple air spaces of low density, heat flow through it by Conduction is slight. The multiple sheets of fiber and aluminum retard Convection.

NATIONAL BUREAU OF STANDARDS TESTS

The National Bureau of Standards conducted a remarkable series of tests to determine if condensation can form in or on reflective **aluminum** when exposed to considerable vapor as in crawl spaces. The results were published by the Technical Division of the National Housing Agency as "Technical Bulletin No. 38." Those interested in retarding condensation formation and the flow of heat and vapor, will find this booklet invaluable for study and reference. We will send a copy free if you'll fill in the coupon.

THERMAL VALUES, INFRA TYPE 4S

Up-Heat C .105 = 3⅛" non-metallic insulation*
Wall-Heat C .068 = 4¾" non-metallic insulation*
Down-Heat C .042 = 7⅞" non-metallic insulation*

*Based on limiting values of Fed. Spec. HH-I-521c

Cost installed between wood joists, material and labor, about 8¢ sq. ft.

Type 6 also available

Can be purchased everywhere through your preferred local dealer.

Infra Insulation Inc., 525 Broadway, N.Y.C. Dept. R-2
Please send National Bureau of Standards Booklet No. 38.

NAME _____

FIRM _____

ADDRESS _____

Proper ventilation of the air space above this suspended ceiling of Armstrong Crestone will prevent warping and other moisture damage.

How important is ventilation for

Improper ventilation, or lack of any ventilation between a suspended acoustical ceiling and a roof slab or gabled roof, can create serious problems, especially in new construction. Moisture from uncured concrete is absorbed by the acoustical material, resulting in cupping or warping. In addition, metal that's on the job may become corroded, and any wood may warp.

Consider, for example, a concrete or poured gypsum roof deck with built-up roofing and a suspended acoustical ceiling (Fig. 1). Although the distance between the slab and the ceiling is a factor—the greater amount of air space the better—vents must still be provided whether inches or feet are involved.

Adequate ventilation should also be used between a suspended acoustical ceiling and its overhead concrete floor slab, where the problem is much the same. Vents will draw off moisture from the green concrete, preventing it from seriously damaging the acoustical material.

The size of the vent opening depends on both volume of air space and type of roof. Because flat roofs offer less natural draft for ventilation than peaked or gabled roofs, they require larger openings.

FHA requirements for the light construction industry specify that in flat roof construction, where the slope is less than 2/12, the minimum size of the opening should equal 1/150 of the square area of the ceiling below. For example, a 150-square-foot area would require a one-square-foot vent. This also ap-

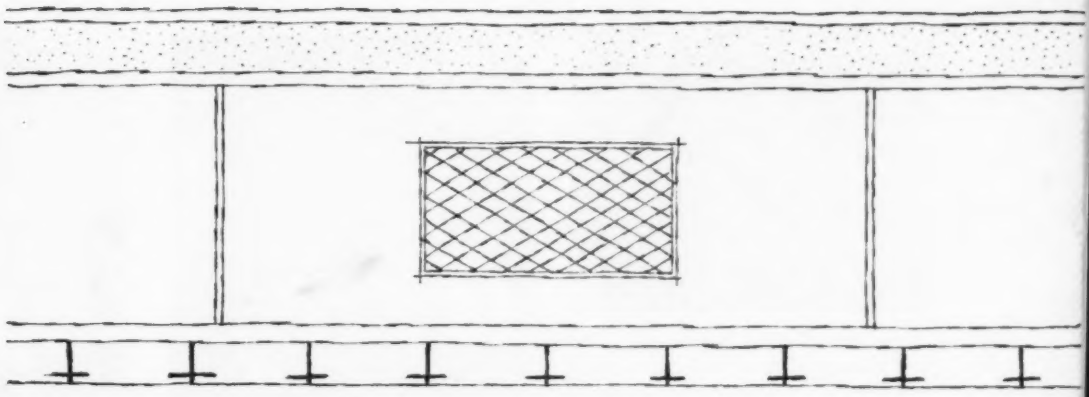

Fig. 1
Flat roof construction requires adequate ventilation regardless of the amount of air space between the suspended acoustical ceiling and the roof deck.

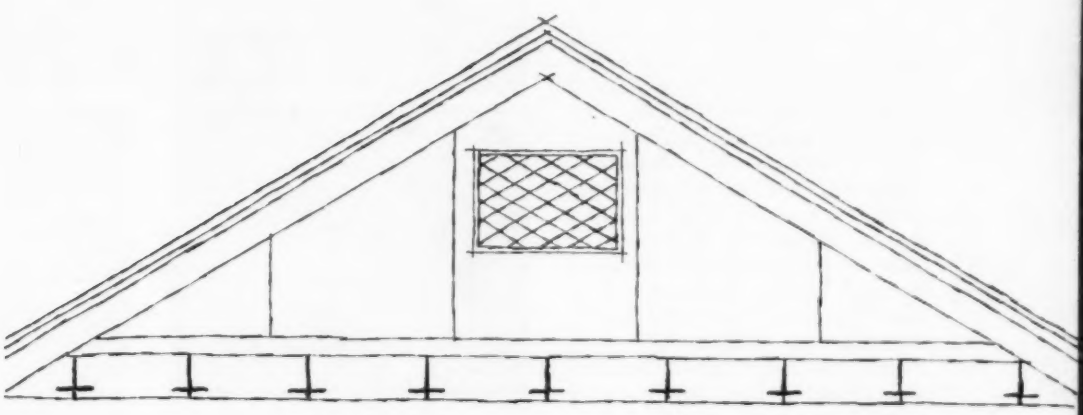

Fig. 2
With gabled roofs, it is important that at least one-half of the ventilated area between the suspended acoustical ceiling and the roof be in the upper portion of the air space.

a suspended acoustical ceiling?

plies to gabled roof construction (Fig. 2). However, where the pitch is greater than 2/12, at least one-half of the vent area shall be in the upper part of the air space, as close to the peak of the roof as practical.

Your Armstrong Acoustical Contractor can give you full data on proper ventilation methods for acoustical ceilings. An expert in his field and familiar with all types of sound-conditioning problems, he can also help you select just the right material for any noise control need.

For free booklet, "Armstrong Acoustical Materials," containing interesting information on the latest sound-conditioning materials and methods, write direct to Armstrong Cork Company, 4202 Rock Street, Lancaster, Pennsylvania.

Armstrong

ACOUSTICAL CEILINGS

Cushiontone® • Travertone* • Arrestone®

Minatone® • Corkoustic® • Crestone®

*TRADE-MARK

(Continued from page 12)

1, 2, 3

DESIGN IN HARDWOODS AWARDS for 1956 went to 36 entries in four classifications in the annual competition sponsored by the Fine Hardwoods Association. Among the "Architectural Installations" winners, awards "for highest honors" went to (1) mahogany bookshelves on mahogany plywood walls — Bertrand Goldberg Associates; and (2) restaurant walls of Philippine hardwood overlaid with birch battens — Marshall W. Perrow; Honorable Mentions included (3) lobby and lounges of Minneapolis Athletic Club (teak plywood and cherry paneling) — Lang & Raugland; (4) living room wall with radio-phonograph and book shelves in birch plywood — George Fred Keck and William Keck; (5) organ screen (bleached walnut) in Christian Science church — Maynard Lyndon; (6) and (7) beach house of stressed skin Philippine hardwood (featuring a cantilevered "flying room") — Bertrand Goldberg Associates. Noguchi had two "Production Furniture" winners, both designs for Knoll Associates: (8) rocking stools in solid teak or walnut (Honorable Mention); and (9) — with Lewis Butler — round walnut and maple dining table (award "for highest honors"). Edward J. Wormley won other award "for highest honors" in "Production Furniture" with (10) tile inlaid walnut pentagonal table. In the "Custom Furniture" category, Pipsan Saarinen Swanson's room divider (11) of white oak plywood won Honorable Mention. "Miscellaneous" award "for highest honors" went to (12) church pew of combed grain oak or figured veneers — B. W. H. Hendrickson & A. C. Hoven for American Seating

Hedrich-Blessing

4

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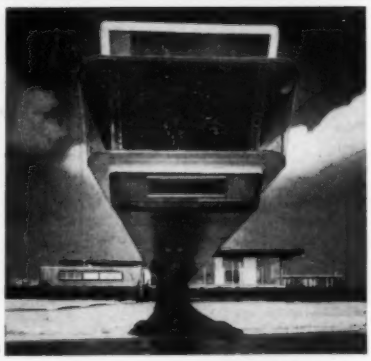

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J. Alex Langley

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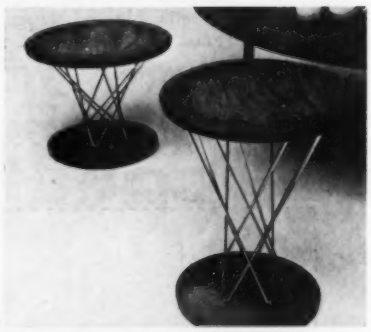

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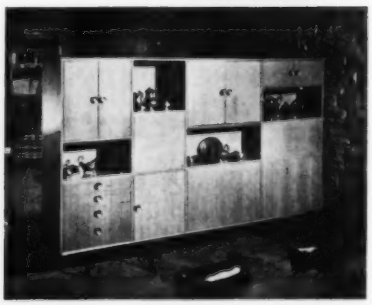

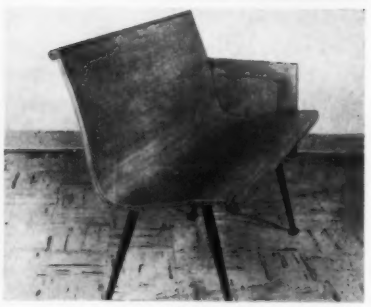

(More news on page 17)

Modern Millinery Department of Lamson Brothers Store in Toledo, Ohio.

KILNOISE®

ACOUSTIC PLASTER

specified for Lamson Brothers by *Weinberg & Teare*

ARCHITECTS, CLEVELAND, OHIO

Lamson Brothers, one of Toledo's smartest stores, offers its clientele the finest in comfortable surroundings. The normal noise of shopping crowds has been effectively subdued by KILNOISE Acoustic Plaster—a "foamed" pressure lime plaster with ideal acoustic and decorative qualities. KILNOISE is being specified by more architects than ever . . . not only for commercial interiors, *but for homes, as well!*

Architects specify KILNOISE for other important reasons, too: its complete fire-retardant and moisture-resistant properties . . . its easy paintability and cleanability . . . its efficient sound absorption qualities . . . and, of course, its high light reflectivity, so vital to more comfortable vision of shopper and salesperson alike.

For perfect applications of acoustic plaster, KILNOISE will fully meet your most rigid specifications. *Tiger Products Division of Basic Incorporated, Cleveland 15, Ohio.*

The best acoustical material is Plaster . . . and the best Acoustic Plaster is KILNOISE

Kilnoise acoustic plaster provides 2½% greater light reflectivity than other acoustical materials

Scientific instrumentation tests show that KILNOISE Acoustic Plaster has a light reflection of .80... whereas 37 other acoustical materials averaged only .78, when tested in the laboratories of the Acoustical Materials Association.

Proper lighting has become an increasingly important factor in business and industry, as well as in schools, churches, homes, and institutions... not only as a matter of sight-preservation, but also as a contribution to the efficiency, safety and personal morale of employees.

That is why we stress efficient Light Reflectivity along with the *many* other superior qualities of KILNOISE . . . considered by most architects and plastering contractors as "the finest acoustic plaster on the market today"!

DON'T OVERLOOK THESE OTHER KILNOISE FEATURES!

COMPLETE FIRE SAFETY— Kilnoise is an *all-mineral* acoustic plaster. It is *one-hundred-per-cent* non-combustible . . . and a positive fire barrier.

MOISTURE RESISTANCE— Wherever humidity is high, other materials may crumble, rust, stain or warp. But Kilnoise is impervious to moisture, making it the ideal ceiling for swimming pools, bathrooms, laundries, shower rooms and other high-humidity areas.

MAINTENANCE — Kilnoise acoustic plaster sets monolithically with a hard, durable surface which can be painted (with a water base paint) repeatedly *without materially reducing its sound-absorption qualities!* This surface can be kept clean and attractive by easy, quick soap-and-water washing.

SOUND ABSORPTION— Many thousands of tiny interconnected pores render Kilnoise highly sound-absorbent. Stippling and random perforating the surface provide a high noise reduction coefficient of .60.

PLEASING APPEARANCE— Kilnoise is a *crackless* plaster with an interesting, pleasing texture which can be further heightened by relief designs, *impressed* in the plaster. Kilnoise is fast finding favor with architects for *residential* applications where appearance is perhaps a more vital factor than in commercial applications.

THE BEST ACOUSTICAL MATERIAL IS PLASTER
... AND THE BEST ACOUSTIC PLASTER IS

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TIGER PRODUCTS DIVISION OF BASIC INCORPORATED • CLEVELAND 15, OHIO

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A.I.A. File No. 39-B

(Continued from page 16)

ARCHITECTS OF AMERICA will be honored in the issue of a three-cent stamp (facsimile at right) to be placed on sale for the first time in New York on February 23, the centennial of the founding in that city of the American Institute of Architects. The stamp, which will measure .84 by 1.44 in., color to be announced, was designed by Robert J. Schultz, A.I.A., of South Bend, Ind., competition winner

LOUIS SKIDMORE NAMED TO RECEIVE 1957 A.I.A. GOLD MEDAL

Centennial Gold Medal, Special Award This Year, Goes to Ralph Walker — President Eisenhower Invited to Address Centennial Celebration Convention

Major honors to be awarded at the Centennial Celebration Convention of the American Institute of Architects May 13–17 in Washington, D. C., were made known last month; and it was also announced that President Dwight D. Eisenhower was among the distinguished personages invited to address the convention.

The Gold Medal of the A.I.A., highest honor in the gift of the profession, will be given this year to Louis Skidmore, F.A.I.A., of New York, founder of the architectural firm of Skidmore, Owings and Merrill. The Gold Medal, which is given only when the A.I.A. Board of Directors can unanimously agree on the recipient, has been awarded 22 times since its establishment in 1907, eight times to foreign architects. It is officially described as "the highest honor the Institute can bestow," and is awarded "in recognition of most distinguished service to the profession of architecture or to the Institute." Previous American recipients have been: Charles Follen McKim (1909), George B. Post (1911), Bertram Grosvenor Goodhue (1925), Howard Van Doren Shaw (1927), Milton Bennett Medary (1929), Paul Philippe Cret (1938), Louis Henry Sullivan (1944 — posthumous), Eliel Saarinen (1947), Charles Donagh Maginnis (1948), Frank Lloyd Wright (1949), Bernard Ralph Maybeck (1951), William Adams Delano (1953), Clarence Stein (1956).

Ralph T. Walker, F.A.I.A., of the New York architectural firm of Voorhees Walker Smith and Smith, Institute past president (1949–51) and tireless servitor, will receive the Centennial Gold Medal, a special award established this Centennial year to recognize exceptional service to the Institute.

Other major awards:

The *Fine Arts Medal*, "the highest honor the Institute can bestow in the fine arts other than architecture," to painter Mark Tobey of Seattle.

The Craftsmanship Medal, "the highest honor the Institute can bestow for craftsmanship in the industrial arts," to Charles Eames of Venice, Cal.

The *Edward C. Kemper Award*, "made each year to the A.I.A. member who has made significant contributions to the Institute and the profession," to David C. Baer of Houston.

Citation of Honor to an organization "in recognition of excellence or achievement," to the Foreign Buildings Operation of the U. S. Department of State.

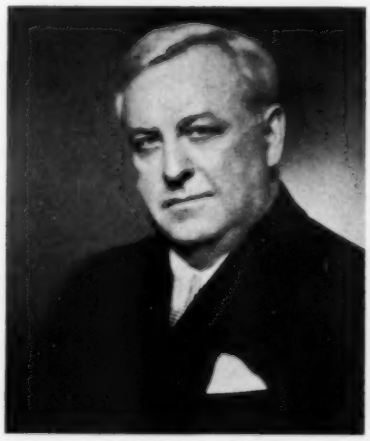
Citation of Honor to an individual "in recognition of excellence of achievement," to sculptor Milton Horn of Chicago.

Honorary Fellowships to Pier Luigi Nervi of Italy and Christiano das Neves, dean of MacKenzie School of Architecture, São Paulo, Brazil.

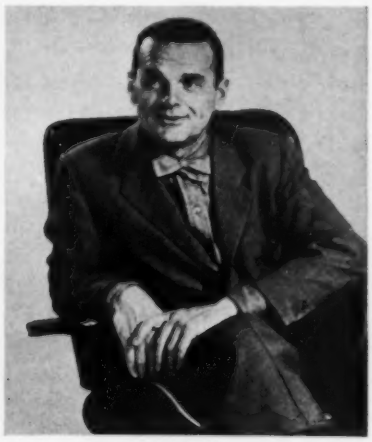
Honorary Membership to J. Winfield Rankin of Washington, D. C., A.I.A. Administrative Secretary.

The A.I.A.'s Centennial Celebration will pick up momentum this month, with the actual anniversary of the founding of the A.I.A. on February 23 scheduled for celebration at numerous chapter events around the country. In New York, A.I.A. President Leon Chatelain Jr. will unveil a commemorative plaque at 111 Broadway, site of the original meeting of the founders; the week of February 17–23 is to be "Architects Week" and for that week Times Square will become "Architects Square."

GOLD MEDAL, A.I.A.'s traditional "highest honor," to Louis Skidmore



CENTENNIAL GOLD MEDAL, a special award this year, to Ralph Walker



CRAFTSMANSHIP MEDAL, another traditional award, to Charles Eames

(More news on page 21)

COMPACT • CONVENIENT • Hotpoint Customline

Women lose their hearts to this handsome, modern combination of the very finest pushbutton appliances and colored cabinets—under *one* gleaming stainless steel countertop.

In modern styling—in compact work-saving efficiency—in superb performance—nothing equals the sales appeal of a 1957 Hotpoint Modular Kitchen!

Compact and efficient, Hotpoint Modular Kitchens are designed for fast, low-cost installation without tricky hook-ups. They save floor space—"enlarge" your kitchen—and give you greater freedom in kitchen planning! They're the dramatic, economical solution to a small kitchen—the glamor highlight of a big luxury kitchen!

Capitalize on the most modern advances in the appliance industry—be the first builder in your community to offer Hotpoint Modular Kitchens—they'll be the talk of the town!

9 FEET OF GLEAMING PUSHBUTTON LUXURY—

In one unit—a complete meal preparation and clean-up center

- **Automatic Super Oven with Rota-Grill Rotisserie.**
- **4 Calrod® Surface Cooking Units, including raisable automatic unit under deep-well cooker.**
- **Automatically-controlled Plug-In Griddle.**
- **De luxe pushbutton Dishwasher.**
- **Disposall® Food Waste Disposer (optional).**
- **One-piece, stainless-steel countertop and sink with Wonderflo single-control faucet.**
- **Pushbutton controls and appliance outlets.**
- **Roomy storage cabinets and drawers.**

look to Hotpoint for the finest...first!

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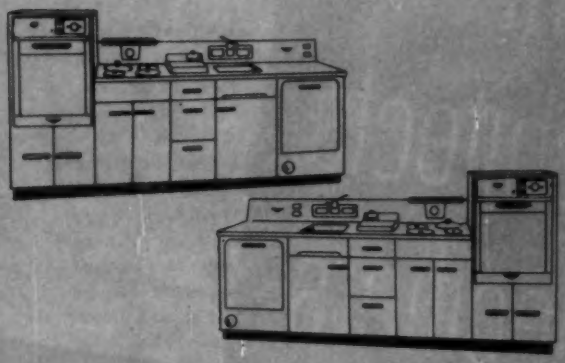
HOTPOINT CO. *(A Division of General Electric Company)* ***5600 Taylor Street, Chicago 44, Illinois***

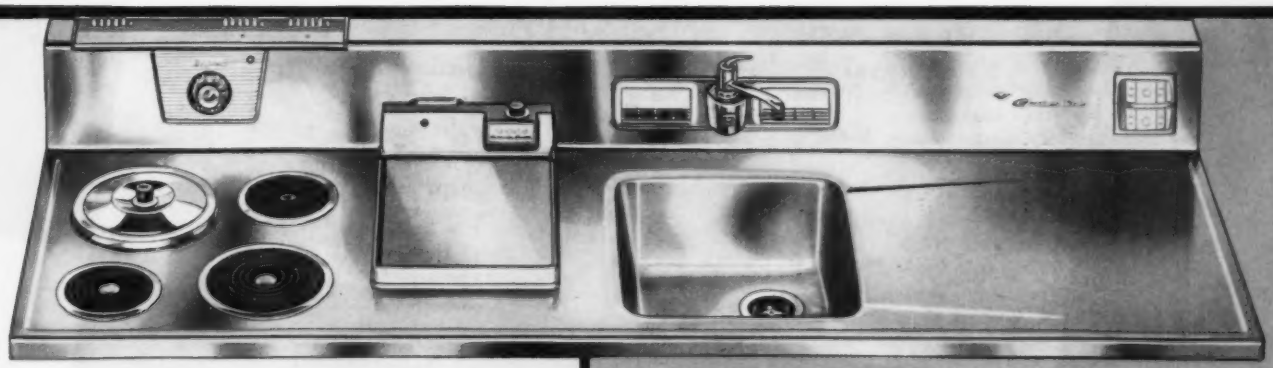
- **At left—9 ft. model with high oven.**
- **At upper right—7 ft. model with under-counter oven.**
- **At lower right—7 ft. model with separate wall oven.**



The 3 basic units pictured here are available with cooking center at left or right end of unit *at no extra cost*—enabling you to reverse floor plans and offer a limitless variety of kitchen layouts.

COLORTONES

DISTINCTIVELY DIFFERENT modular kitchens



ONE-PIECE STAINLESS STEEL TOP AND SINK AVAILABLE SEPARATELY

You can also offer the gleaming beauty, the lifetime durability, the work-saving convenience of Hotpoint's Modular Tops with natural wood cabinets of your choice. Available with cooking center at right or left at no extra cost. Hotpoint Modular Tops can be combined with any Hotpoint wall oven, dishwasher, and refrigerator.

An announcement of interest to architects, builders and specifiers

KENTILE, INC., to re-name all of its floor tile products

To conform with established architectural practice in specification writing, and for quicker and simpler identification, the names of all Kentile, Inc., floor tiles will now carry the Kentile name plus the material description as follows:

FORMER NAME	NEW NAME
KENTILE	KENTILE asphalt tile
KENRUBBER	KENTILE rubber tile
KENCORK	KENTILE cork tile
KENFLEX	KENTILE vinyl asbestos tile
KENROYAL	KENTILE solid vinyl tile
KENFLOR	KENTILE cushion-back vinyl tile

Effective in March, all Kentile, Inc., national advertising will feature these new names.

We at Kentile hope that this simplification will prove to be of assistance to you in selecting the proper flooring in your future specifications.

KENTILE, INC., Brooklyn 15, N. Y. • 350 Fifth Avenue, N. Y. 1, N. Y. • 3 Penn Center Plaza, Philadelphia 2, Pa. • 1211 NBC Building, Cleveland 14, Ohio • 900 Peachtree Street, N. E., Atlanta 9, Georgia • 1016 Central Street, Kansas City 5, Missouri • 4532 So. Kolin Avenue, Chicago 32, Illinois • 4501 Santa Fe Avenue, Los Angeles 58, Cal.

The State of Construction

Another record year for construction was added to the unbroken postwar succession when F. W. Dodge last month reported a 1956 total of $24,412,630,000 in construction contracts awarded in the 37 states east of the Rockies. But the increase, three per cent over 1955, was less than in any earlier postwar year, and figures for the final month of the year, as for the three preceding months, were lower than in the corresponding month of 1955. (For details, page 384.) Commenting on the "more moderate" increase recorded in 1956, Dodge Vice Chairman Thomas S. Holden found it "not at all surprising," and noted that "it was anticipated in our outlook statement issued in November 1955." As for 1957, Mr. Holden said the prospects "seem to be for another moderate increase to new record levels, sparked largely by public works construction of all types, with particular emphasis on highways."

Toward that Social Art

An honor awards competition with a very special program and a very special jury is planned by the five A.I.A. chapters of Northern California as their major commemoration of the A.I.A. Centennial Year. The program, announced by a committee consisting of George T. Rockrise (chairman), Henry Schubart Jr. and Victor Abramson, was developed "in the belief that Architecture is, above all, a social art which can be best evaluated in terms identified with the individual member of society." For the selection of distinguished work in architecture, it proposes these criteria: "1. Its contribution to the dignity, exaltation, comfort and inspiration of the people who use and inhabit it. 2. Its embodiment and projection of our changing cultural and esthetic values. 3. Its mastery and recognition of our atomic-age technology coupled with firm discipline of spiraling costs. 4. Its appropriateness to the community of which it is a part, and its recognition of the forces of growth and decay." Dean Pietro Belluschi of the School of Architecture and Planning of Massachusetts Institute of Technology heads the Jury of Award, whose other members are Edgar Kaufmann Jr. of New York, Prof. James M. Fitch of the Columbia University School of Architecture, Sculptor Harry Bertoia and Dr. J. Robert Oppenheimer, director of the Princeton Institute for Advanced Studies. Entries are due March 1, and awards will be announced and exhibited at a dinner planned as a major civic event on March 9 in San Francisco.

Aluminum and Architecture

Nominations for the first annual R. S. Reynolds Memorial Award are due February 15, the American Institute of Architects, appointed the administering agency, announced last month. Architects "practicing legally" in any nation are eligible for the $25,000 annual prize for the architect making "the most significant contribution to the use of aluminum, structurally or esthetically, in the building field" and they may either nominate themselves or be nominated by others. Rules set up by the A.I.A. provide that the award may be made for a structure of any classification, may be one structure or a related group of structures forming a single project — "Nor is it necessary for the structure to have been designed for human habitation; it may be entirely utilitarian or principally symbolic or decorative, or a structure featuring integral architectural sculpture. Prime consideration will be given to the creative value of the contribution, and its potential influence on the architecture of our times, rather than to the size or type of structure." All projects nominated must have been completed before Jan. 1, 1957. George S. Koyl, F.A.I.A., has been designated as professional adviser for the competition, and the winner will be selected by a five-man jury to be named by the Executive Committee of the A.I.A. Board of Directors. Closing date for submission of material is March 25, and judging will be completed by April 3.

—Drawn for the RECORD by Alan Dunn

"You and your 'better worlds'!"

Aluminum and Houses

Aluminum Company of America has announced its "boldest market development move since it launched the age of metal-clad skyscrapers" — a program it believes will achieve "the greatest change in residential building materials in centuries," with the stated aim of "better houses with much lower maintenance." Key components of the new program are (1) formation of a Residential Building Products Advisory Committee "from among the best architectural and design brains in the field, to solve specific home design problems as they may arise, and to develop new methods and products"; (2) inauguration of a Home Design Conference, which will meet for the first time this April with Dean Pietro Bellushi as chairman; and (3) a model house, the "Alcoa Care-Free House for Care-Free Living," designed by Charles Goodman, A.I.A., of Washington, D. C., as a demonstration of copious and effective use of aluminum in residential design. Fifty

(Continued on page 24)

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Goodwill of home buyers is the greatest asset any architect, contractor or developer of a residential sub-division can enjoy. When you specify permanent Cast Iron Soil Pipe and fittings from street to roof vent in every home drainage system, you build goodwill by effecting these economies for home owners for years to come:

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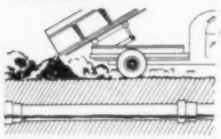

SAVINGS IN PIPE BREAKAGE COSTS— Root removal, heavy driveway pressures, ground settlement, vibration, nail or spike penetration in the walls of buildings can fracture many kinds of substitute pipe material. These cannot break or damage rugged Cast Iron Pipe because of its toughness and high structural strength.

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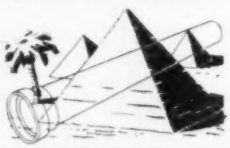

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THE RECORD REPORTS

MEETINGS AND MISCELLANY

(Continued from page 21)

of the houses will be constructed by selected builders across the country.

Another Tour to Japan

The second Architects' Tour to Japan is being organized for next Fall under the leadership of Kenneth M. Nishimoto, A.I.A., of Pasadena, who led the post-convention tour last summer. Architects, their families and friends will be welcomed as tour members. Details will be forthcoming in the Spring.

Who's Who

Jury members for the A.I.A.'s Ninth Annual Program of National Honor Awards will be **Philip D. Creer,** F.A.I.A., of Providence; **Alden B. Dow,** A.I.A., of Midland, Mich.; **James M. Hunter,** A.I.A., of Boulder, Colo.; **Roy F. Larson,** F.A.I.A., of Philadelphia; and **John Knox Shear,** A.I.A., editor-in-chief of ARCHITECTURAL RECORD. Nearly 400 entries had been received by the deadline January 7. . . . **George T. Orick,** formerly on the editorial staffs of *Architectural Forum*, *Engineering News-Record* and Schenectady, N. Y., newspapers, has joined the A.I.A. staff in Washington as Public Relations Coordinator. Mr. Orick, who is to work closely with Henry J. Kaufman Associates, the A.I.A. Public Relations Counsel, will serve as liaison between the Institute and its regional and chapter organizations on public relations matters. . . . **Adlai S. Hardin** of New York has been elected to succeed **Leo Friedlander** as president of the National Sculpture Society. Other officers: **Frank Eliscu,** first vice president; **L. Andrew Reinhard** (of the architectural firm of Reinhard, Hofmeister & Walquist), second vice president; **Clyde C. Trees,** treasurer; **Aldolph Block,** secretary; **Herbert Lewis Kammerer,** recording secretary. . . . **Charles E. Joern** of La Grange Park, Ill., has been elected as the ninth president of the Urban Land Institute. . . . **Kenneth S. Keyes** of Miami last month was installed as the new president of the National Association of Real Estate Boards. He succeeded **Clarence M. Turley** of St. Louis.

Education Notes

New dean of the School of Architecture and the Arts at **Alabama Polytechnic Institute** is Samuel T. Hurst, of the Atlanta architectural firm of Abreu and Robeson Inc. Mr. Hurst succeeds Frank Marion Orr, who resigned several months ago to become head of the newly organized Department of Building Technology at Auburn. A graduate of Georgia Institute of Technology (B.Sc., B.Arch.), Mr. Hurst received his M.Arch. from Harvard and has served as instructor, associate professor and administrative assistant to the director at Georgia Tech, and as an assistant professor of architecture at Tulane, in addition to private practice. . . . New York architect Giorgio Cavaglieri has been elected chairman of the Board of Trustees of the **National Institute for Architectural Education** (né Beaux-Arts Institute of Design). Other new officers for 1957, all New Yorkers: Joseph Judge, vice chairman; Arthur S. Douglass Jr., secretary; Otto Teegen, treasurer. New trustees are José A. Fernandez and Esmond Shaw (head of Cooper Union's Department of Architecture). . . . The only news release on an annual report by an architectural dean which ever reached this department makes a dean's life sound rosy. "Optimum working conditions" were among the happy situations reported by Dean Leopold Arnaud of the **Columbia University** School of Architecture, according to the news summary of his annual report. This derived from Dean Arnaud's discussion of Columbia's policy of maintaining a high ratio of instructors to students and restricting the number of students. Dean Arnaud also reported that evening classes at Columbia have been "quite successful" and that the "Board of Consultants" originated last year as a professional advisory system for students has given "excellent results." . . . **Appointments:** At **Harvard Graduate School of Design,** Miss Katherine McNamara, as librarian. . . . At the **University of Michigan** College of Architecture and Design, Kiyoshi Mano, Stephen C. A. Paraskevopoulos and Stanley M. Sherman, as assistant professors; Donald J. Bergsma, John F. Dawson, Robert M. Grosjean, Joseph J. Wehrer and William A. Werner, as instructors in architecture; Robert B. Lytle of the architectural firm of Lytle-John, as visiting lecturer. . . . At **Agricultural and Mechanical College of Texas,** Division of Architecture — Edward J. Romieniec, associate professor and senior design critic; Joseph Donaldson, artist-lecturer; Harry M. Farha, instructor in graphics. . . . At **Clemson College** Department of Architecture — as visiting lecturers, Carl Feiss, Frederick Gutheim, Lawrence Anderson (M.I.T. Department of Architecture head), Fred Severud, Norman Fletcher, Henry Hope (Indiana University art department head), and H. K. Minhunick (regent professor of city planning at Georgia Tech). . . . **Awards:** The third annual series of scholarships made possible by a **National Board of Fire Underwriters** grant (of $4500 in all) has been announced by the American Institute of Architects. The student recipients were Douglas Barker, Pratt

(Continued on page 348)

ALL FOR ONE, etc. — A. L. Aydelott (at left above), new president of the Memphis Chapter of the A.I.A., joins in what is described as a "unity handclasp" with John Pritchard (center) of Tunica, Miss., A.I.A. Gulf States regional director, and Zeno Yates, retiring president of the chapter. At left is reproduced the cover of a post-convention report gotten out by the enterprising committee — headed by Harry B. Tour — for last fall's Gulf States A.I.A. Regional Conference. Front and back covers display a montage of some of the highly gratifying press coverage of the conference; inside, the brochure provides a résumé of the main events of the conference, whose theme was "Architecture in the Nuclear Age"

(More news on page 28)

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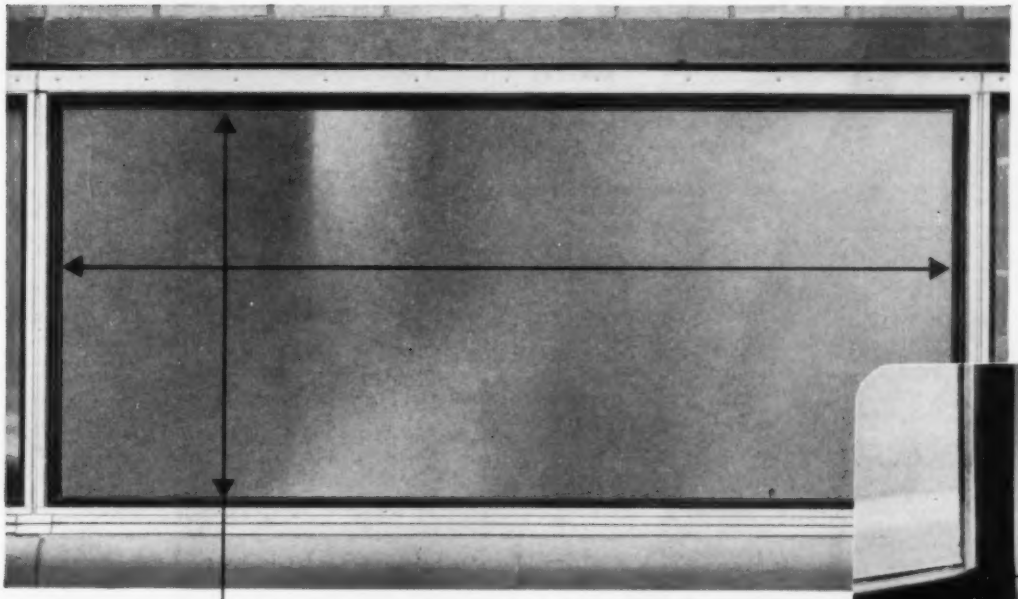
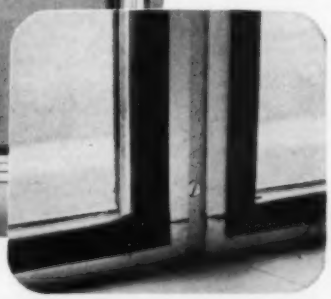
New LEAKPROOF INLOCK structural weather strip obsoletes present glazing methods



In July, 1956, ribbon windows in a 10-year old office and factory building were completely reglazed, because for years, considerable leakage had been experienced. Half the lights were reglazed by conventional methods, the other half were reglazed by the same workmen using INLOCK Structural Weather Strip.



Unretouched photo (inset) shows interior view of molded Inlock one-piece corner. Note neat eye-appealing finish. No distortion has occurred.

Inlock—an exciting new discovery in structural weather strip, is a self sealing, permanent weatherproof setting member that never leaks. It is ideally suited to modern ribbon window installations, curtain wall construction, windows in combination with insulated panels, and other building applications. Made of Neoprene, it needs no binders, cement or other caulking. Corners are injection molded. No mitered corners or joints to leak because of expansion or contraction. Permanent wax blooming, water-repellent surface adds a fine shadow line frame to windows. Maintenance-free, needs no paint, finish or pointing. Will not deteriorate. Available in standard gasket sections, or can be designed to your specifications.

Unretouched photo taken, **less than four months** after reglazing. Note how movement due to expansion and contraction has forced putty out of channels.

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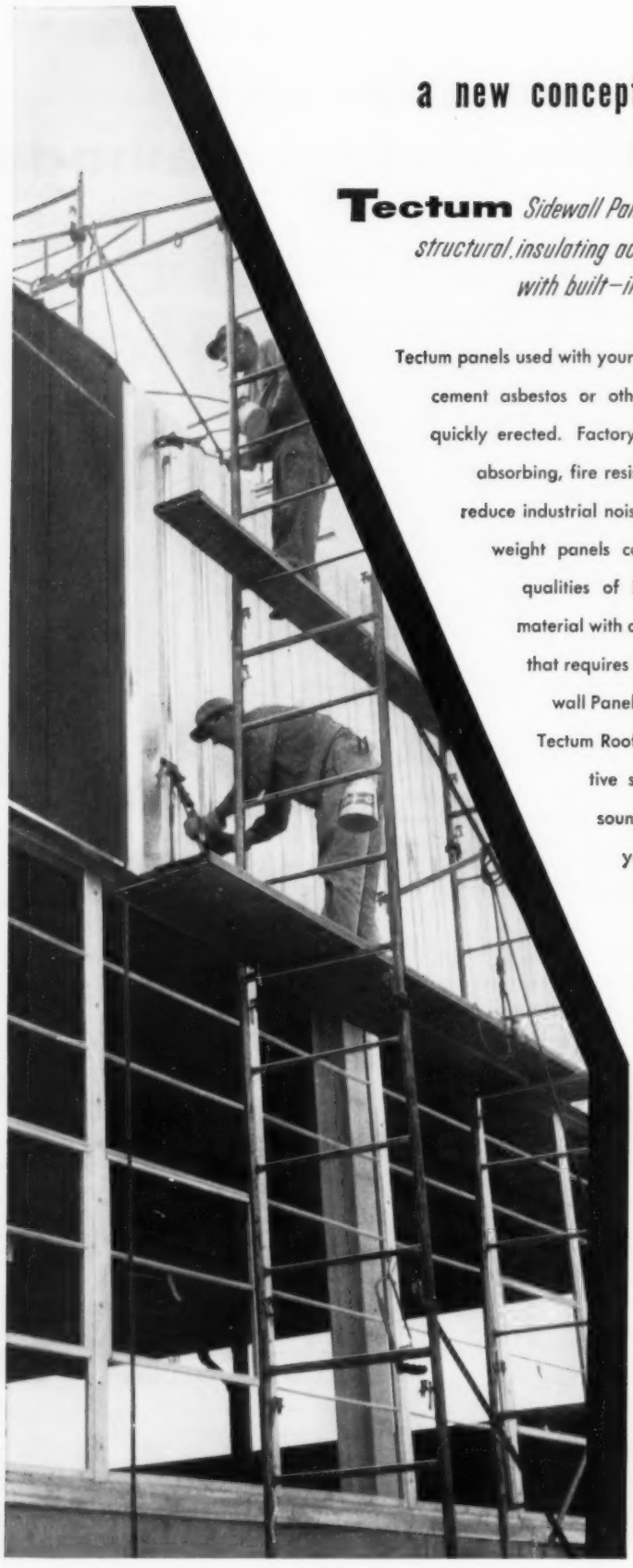

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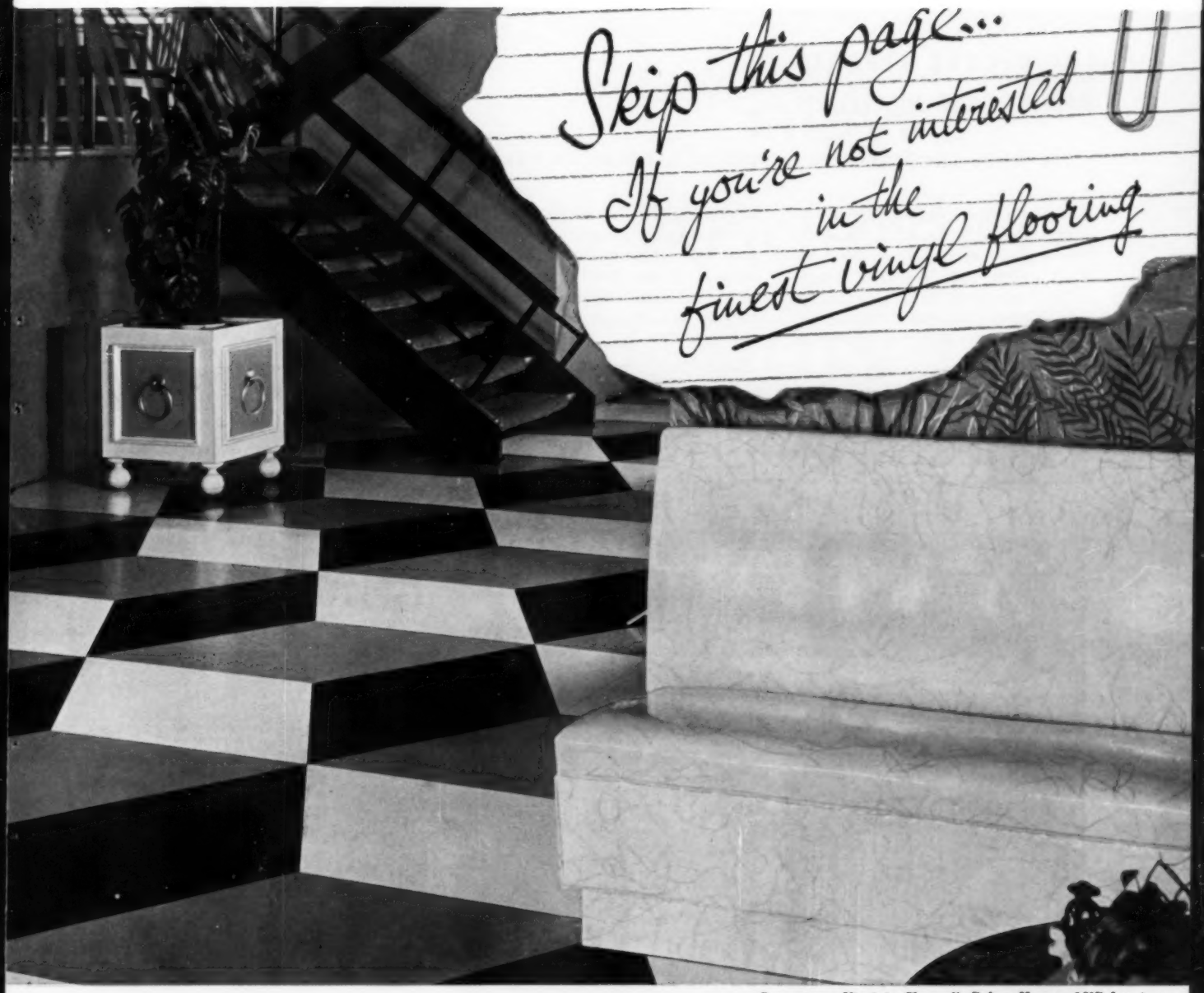

Decorators—Virginia Chappell, Robert Henry of VR Interiors

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(Continued from page 24)

A.I.A. PUTS ARCHITECTURAL PHOTOGRAPHERS ON PARADE

Six award-winners and 26 other photographs selected by an A.I.A.-appointed jury went on view January 23 in the A.I.A. gallery, 1741 New York Avenue, N.W., Washington, D. C., as the Second Exhibition of Architectural Photography sponsored by the American Institute of Architects, with the cooperation of the Architectural Photographers Association. The exhibit will tour under the auspices of the Smithsonian Institution's Traveling Exhibition Service after the current showing at the Octagon ends February 27.

The jury consisted of one professional photographer, Volkmar Wentzel, of the National Geographic Society; one architect, Leon Brown, head of the Department of Architecture at Howard University; and one editor, William A. Reedy, of *Applied Photography, Commercial Camera,* and *Bulletin for the Graphic Arts* of Eastman Kodak.

Purpose of the exhibition and the competition is "to recognize and encourage outstanding work in the field of architectural photography."

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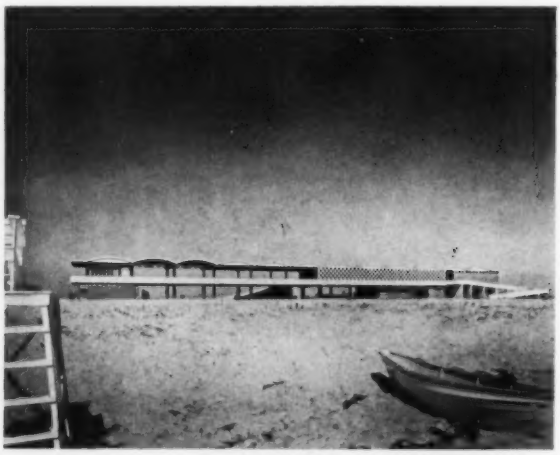

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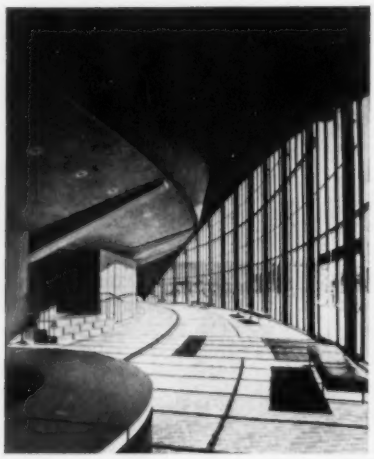

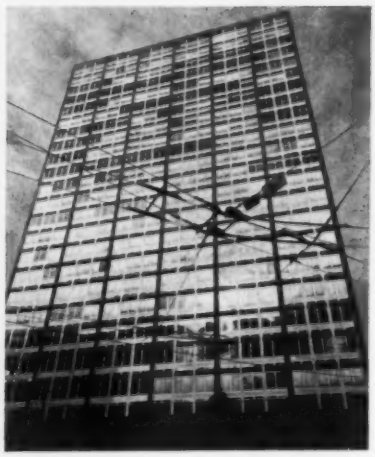

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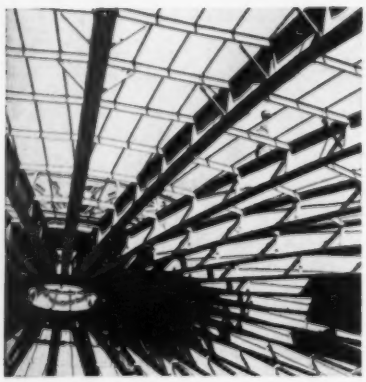
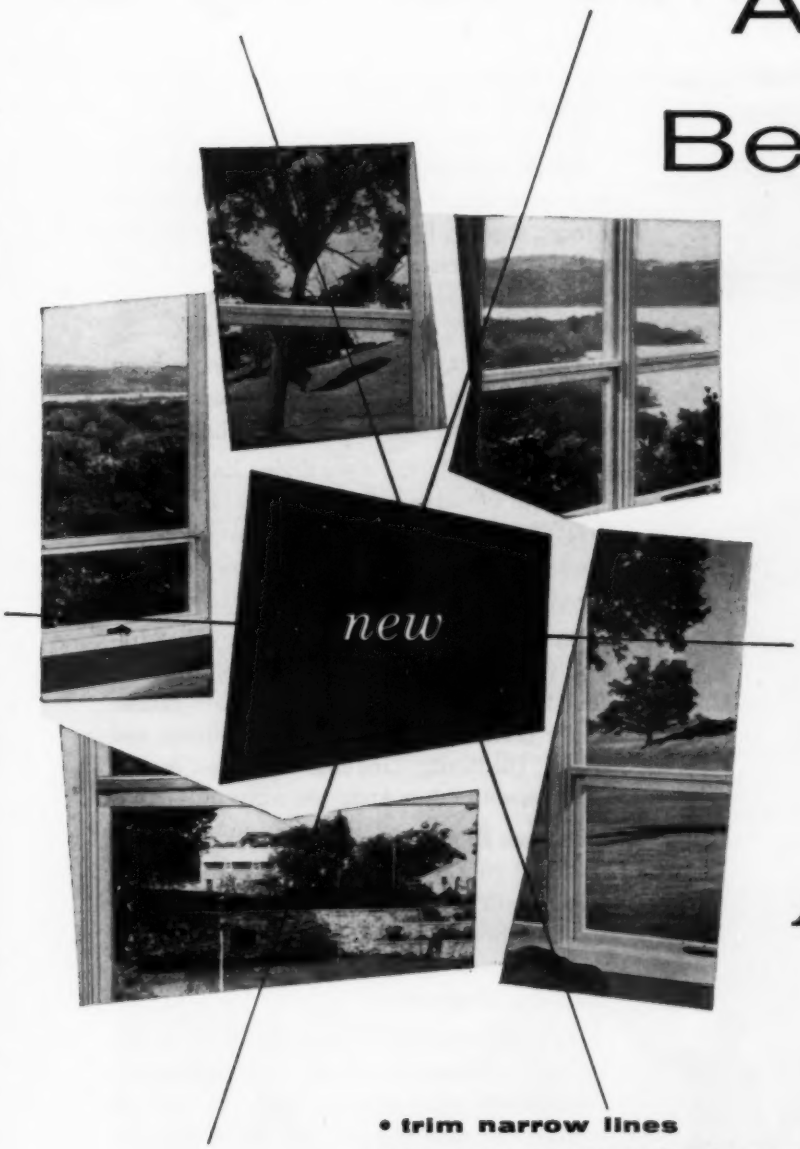


FIRST PRIZE went to S. C. Valastro for his photograph (1) of Lever House, New York City (Skidmore, Owings and Merrill, Architects). SECOND PRIZE — Joseph W. Molitor for his photograph (2) of Salisbury Bath House, Salisbury Beach, Mass. (Coletti Brothers, Architects). THIRD PRIZE was tied between Gabriel Benzur's photograph (3) of Georgia Institute of Technology, Atlanta (Aeck Associates, Architects), and Joseph W. Molitor's photograph (4) of the Auditorium at Massachusetts Institute of Technology, Cambridge, Mass. (Eero Saarinen and Associates, Architects). In addition, two Honorable Mentions were given, one to S. C. Valastro for his photograph (5) of the Mile High Center, Denver (I. M. Pei, Architect) and the other to Mason Pawlak for his photograph (6) of the Michigan Racing Association Grandstand, Livonia, Mich. (Giffels and Vallet, Inc., and L. Rossetti, Architects and Engineers). The prizewinners and 26 other photographs selected by the same jury will be circulated by the Traveling Exhibition Service of the Smithsonian later on. Applications for bookings of the show may be made through Mrs. John A. Pope, Chief of the Traveling Exhibition Service

(More news on page 32)

new Andersen Beauty-Line window



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In split level homes new Beauty-Line Windows blend perfectly to match architectural designs no matter what elevation you may have in mind.

In schools and light commercial buildings new Beauty-Line Windows adapt to any exterior elevation, bring vital light and ventilation.

Here's a window designed to bring new beauty to a wide variety of architectural styles in residences, schools, light commercial buildings. It's called the Andersen Beauty-Line Window. It has a fixed upper sash over an awning style lower ventilating sash combined in a single unit.

Feature of Andersen's patented design is an exceptionally narrow meeting rail between the upper fixed sash and the lower ventilating sash.

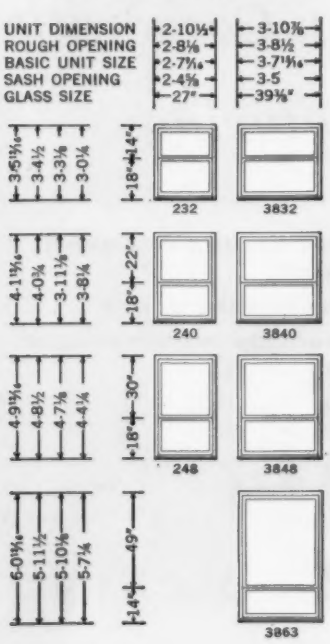
Economies effected in the design, and through the use of a fixed upper sash, bring a low over-all cost per square foot of glass area when you specify the new Beauty-Line Window.

Versatility of the new Beauty-Line Window makes it ideal for solving almost any fenestration problem. It's available in seven sizes with four heights and two widths. All sizes can be easily joined together to form mullions and triples. The Beauty-Line can also be used in conjunction with other Andersen WINDOWALLS.

The new Beauty-Line comes completely assembled and packaged from the factory. Optional features offered include glazing with welded insulating glass, removable double glazing, aluminum frame screen, choice of three types of operating hardware.

You can get full details and specification data by writing direct to Andersen Corporation. Andersen WINDOWALLS are sold only through lumber and millwork dealers, and are readily available throughout the country, including the Pacific Coast.

new Beauty-Line window offered in four heights, two widths



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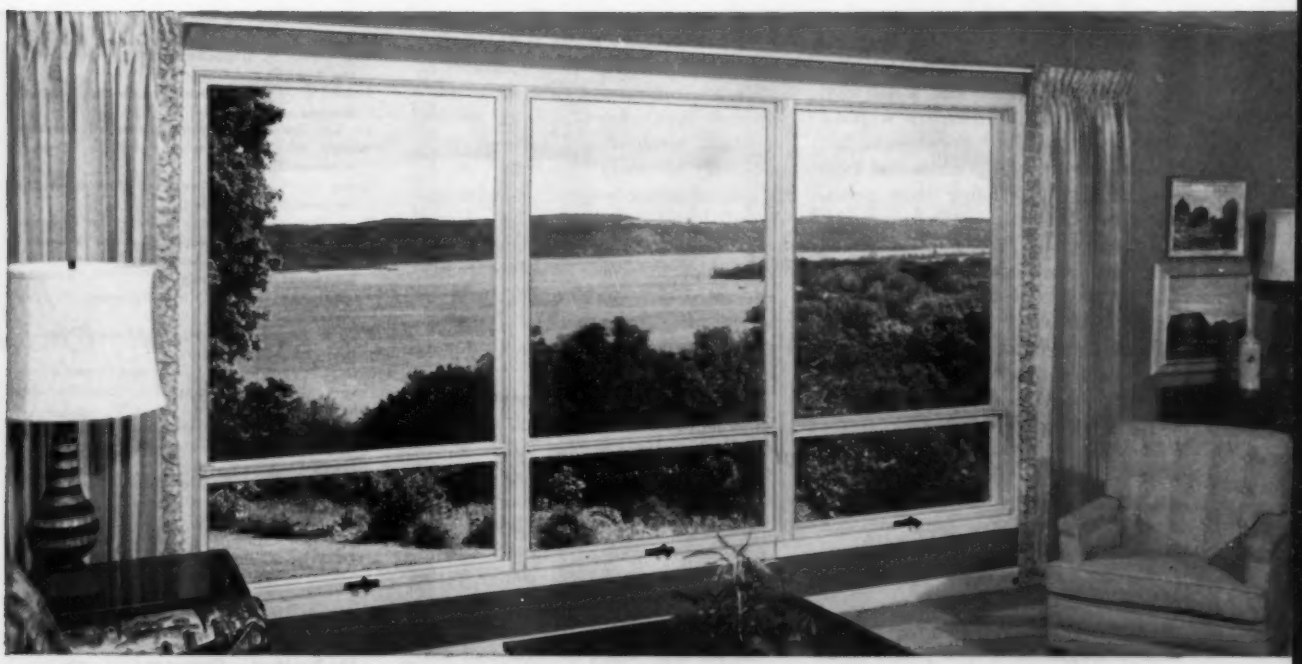
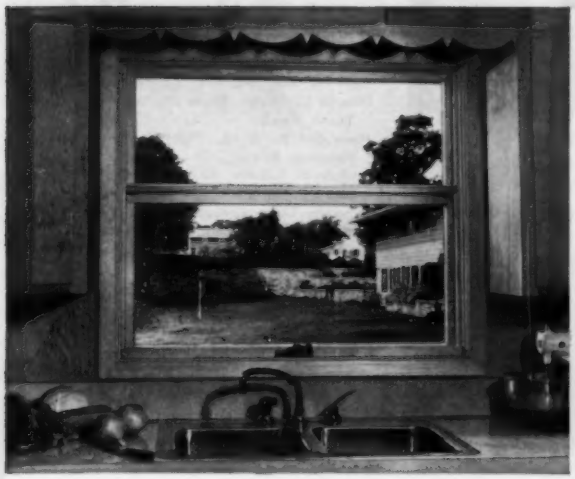


Ideal for living rooms. Tall and handsome 5′10″ high Beauty-Line Windows combine to form glamour Andersen WINDOWALLS so popular in modern family living. Narrow meeting rails are located to give minimum interference with vision in sitting or standing position. Three choices of hardware. Standard Lock, Bar-Lock for low-cost underscreen operation and Roto-Lock (shown on windows above) which also works under screen and pulls sash corners in snug and tight.



Ideal for kitchens. Short 3′3″ height of Beauty-Line makes perfect kitchen window for use over kitchen sink or counter. Also serves as excellent privacy window when specified for bedrooms.

Ideal for dining rooms. Medium 4′7″ height of Beauty-Line is useful in dining areas . . . and all through the house. This view shows Andersen Bar-Lock Operator, one of three operating hardware options.

PUBLIC WORKS PLANNING: AN INDICTMENT AND A CHALLENGE

The developing program of public works coordination in the Federal government carries with it a great deal of meaning for the architect and engineer. This endeavor, now a year and a half old, does not deal with complete working drawings for public works projects, but it does attempt to aid states and local communities in defining their needs, setting up priorities, estimating costs, and getting into long-range planning programs. The architect and engineer logically should be a part of the long-range projections, and he has an essential role in the estimating work.

Assistant to the President Maj. Gen. John S. Bragdon, as the Administration's Coordinator of Public Works Planning, is welcoming the participation of architects and feels that they can serve an essential role in the development of city and state programs even before the time of detailed plan preparation. In consulting capacities they can help guide the lower governmental jurisdictions and point the way toward the desired integration of their public works schedules with those of other communities.

In his first progress report to the President since his appointment in August 1955, General Bragdon emphasized the enormity of the job still to be done. "Public works planning in its present state," he said, "is a sprawling monster with many heads and arms reaching haphazardly into every phase of our everyday life. It is administered by some 40 agencies of the Federal government together with over 100,000 lower governmental jurisdictions. As a rule, neither heads nor arms of all concerned act with reference to each other unless constrained to do so." His report stressed that "if the objectives of sound planning are achieved, the average citizen would secure his most needed public improvements first. He would get them at less cost. His public official would avoid the waste of wrongly chosen sites, duplication, unbalanced development and pressure of expediency."

In accepting this recent report from General Bragdon on 15 months of activity, President Eisenhower made it clear that he wanted the work continued and expanded. In a letter commenting on accomplishments of the office, the President wrote:

"In our country where the Constitution recognizes the proper sphere of state government and where the independent functioning of our local governments is retained and fostered, it is especially necessary that truly comprehensive planning be accomplished at and by all levels and that it be oriented with reference to intergovernmental relationships in order to secure sound, integrated development. This will be helpful in assuring and preserving the proper division of responsibility among levels of government."

Declaring that the Federal government should take the lead in developing effective coordination of public works planning, the President urged General Bragdon to develop procedures for "early recognition and identification of problems and policy issues that may arise in this field, and continue the formulation of lines of action for their resolution."

At the same time, the President concurred with General Bragdon's belief that Executive departments and agencies of the Federal government should "intensify their planning efforts," and that states and local governments should be persuaded to increase their public works planning.

Mr. Eisenhower's letter concluded: "You have my continued interest and support in the efforts to move forward more rapidly toward the attainment of the objective of strengthening the nationwide public works planning."

General Bragdon proposes that as a new approach to comprehensive and coordinated planning, states would be urged to establish planning units which would keep governors and state legislatures informed as to how proposed state public works programs would fit in with Federal public works activities. Cities would be encouraged to create comprehensive planning units which would keep mayors and city councils apprised of how their construction programs would meet the requirements of the cities' expansion over the next 15 or 20 years.

If this proposal can be carried out as now projected, governors, mayors, the executive heads of all communities and their legislatures, councils or governing boards would receive data from their planning organizations which would help

(Continued on page 352)

PUBLIC WORKS ADVISORY COMMITTEES

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Robert E. Merriam, Assistant to the Director, Bureau of the Budget
Dr. Leo Grebler, Council of Economic Advisors
Walter Williams, Under Secretary, Department of Commerce
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John C. Hazeltine, Commissioner, Community Facilities Administration, Housing and Home Finance Agency
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State-Local

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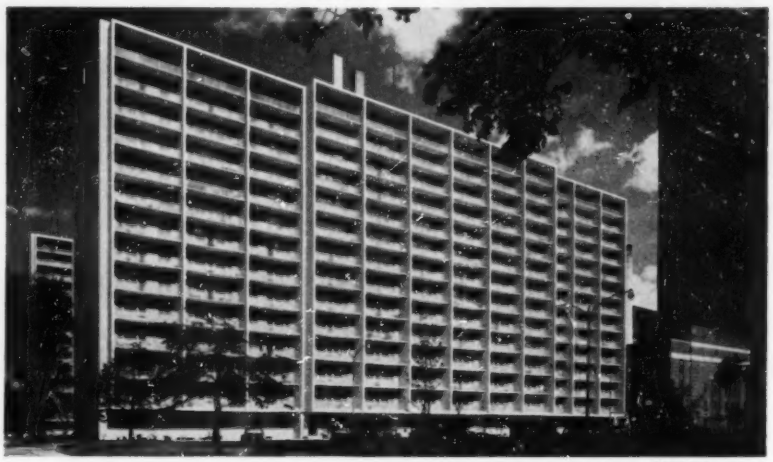
MORE BRITISH FUNDS SEEN IN CANADIAN CONSTRUCTION

An increase in the amount spent by Britain on Canadian construction and industrial investment is looked for in 1957. Source of this information is the British Board of Trade, which points out that in 1955–56 British firms did £87.2 million worth of building overseas. Investment in the dollar area amounted to £19 million, most of that sum being spent in Canada.

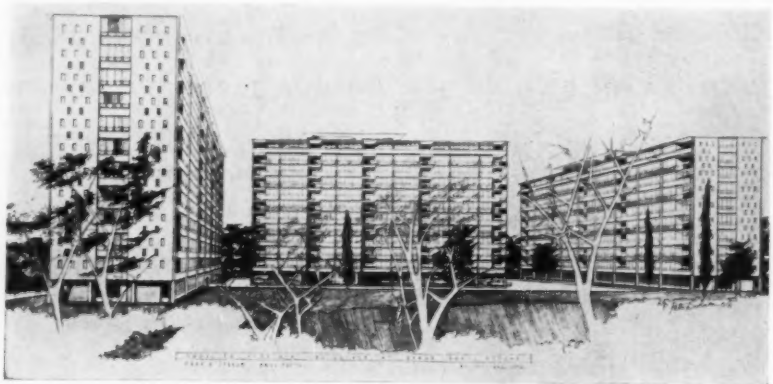
Among recent examples of British construction investment in Canada, is the Toronto project, "City Park Apartments," shown at right. Among upcoming projects already announced are the multi-million-dollar development at Meadowvale, near Streetsville, Ont., to be built by Richard Costain Ltd., Britain's third largest construction firm, in association with Dolphin Development Company; the Suez Canal Company's participation in a proposed $250 million satellite town in suburban Montreal; and industrial and commercial development of Vancouver's Annacis Island (AR, Dec. 1956, page 36) by Grosvenor Estates Ltd., the Duke of Westminster's company.

Other disclosures of British capital investment plans are expected shortly when details are approved by the Bank of England.



Max Fleet

CITY PARK APARTMENTS in Toronto (above) are British investment in Canada; Peter Caspari was the architect. Below: architects Page & Steele of Toronto have designed these apartment buildings for one of the most beautiful sites in Ottawa, surrounded by magnificent trees and with views in every direction. Each of the 300 suites will have a balcony. Frame will be reinforced concrete flat plate construction; all apartments will be fully air conditioned. Parking is provided for every tenant



HOUSING DROP IN 1957 EXPECTED BY INDUSTRY

A sizeable drop in residential construction in 1957 is anticipated by industry leaders, largely because of the unattractive return — five and a half per cent — on National Housing Act mortgages compared with other investments. Completions, it is said, may fall to 110,000, compared with an estimated 130,000 in 1956.

The National House Builders Association is pressing the Federal Government for action it recommends to alleviate the situation. The organization calls for clarification of official policy as regards the effect of short-term credit control on long-term housing production; establishment of a market to deal in NHA mortgages; and quicker publication of house building statistics.

B. C. ARCHITECTS REPORT MEMBERSHIP AT NEW HIGH

A total of 196 architects now are members of the Architectural Institute of British Columbia, retiring president John L. Davies reported at the 37th annual meeting of the Institute, held at the Hotel Georgia in Vancouver December 7–8. There was a net gain of 11 members during the year.

Succeeding Mr. Davies as president is Clive D. Campbell, Deputy Minister of Public Works for British Columbia and chief government architect. In his inaugural address, the new president expressed confidence in the continued growth of the province and pleasure that, as indicated by the increase in membership, the profession is keeping pace with this progress. Other officers elected at the meeting were: W. G. Leithead, vice president; Warnett Kennedy, registrar; and F. Murray Polson, honorary treasurer. Kenneth McKinley was also elected to the Institute's executive council, on which John L. Davies, C. E. Pratt and R. W. Siddall will continue for another year. Professor Fred Lasserre is government representative on the council. R. B. Deacon continues as executive secretary.

Three special committees were set up at the meeting; these are to deal with public relations, architectural firm names and the structure of professional fees. Speakers included Douglas Brown, Vancouver barrister, and city alderman George Cunningham.

The 1957 annual meeting will be held at the Empress Hotel in Victoria.

(Continued on page 40)

This modern church design owes much of its clean, soaring form to the adaptability of lumber. Springing directly from the skylighted baptistry, the spire is an extension of a three-legged truss required by the triangular structure below the spire. The triangular shape over this structure serves as a transition between the main building and the spire and also controls the direct rays of the sun coming through the skylight.

For freedom of design, of expression—select wood, the economical, ever-modern building material. And for dependable lumber specify the West Coast species, Douglas fir, West Coast hemlock, Western red cedar, Sitka spruce.

MODERN DESIGN USES WEST COAST LUMBER

Friendly Street Church of God, designed by John E. Stafford, architect, A.I.A. and graduate of University of Oregon. His interesting use of wood in this structure points up the versatility of lumber for any type of construction.

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West Coast Hemlock
Western Red Cedar
Sitka Spruce

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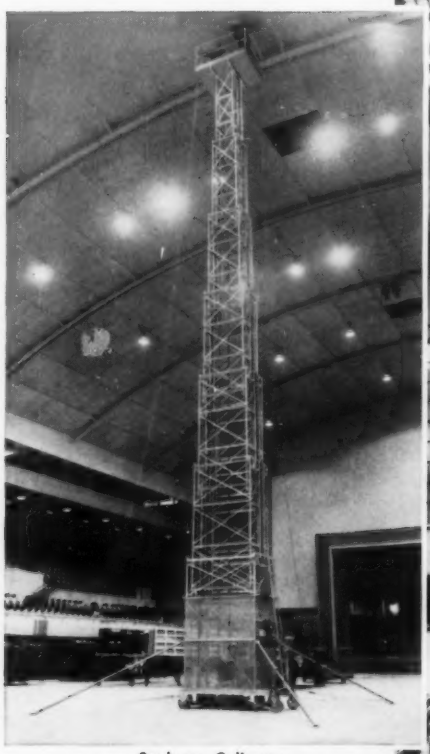
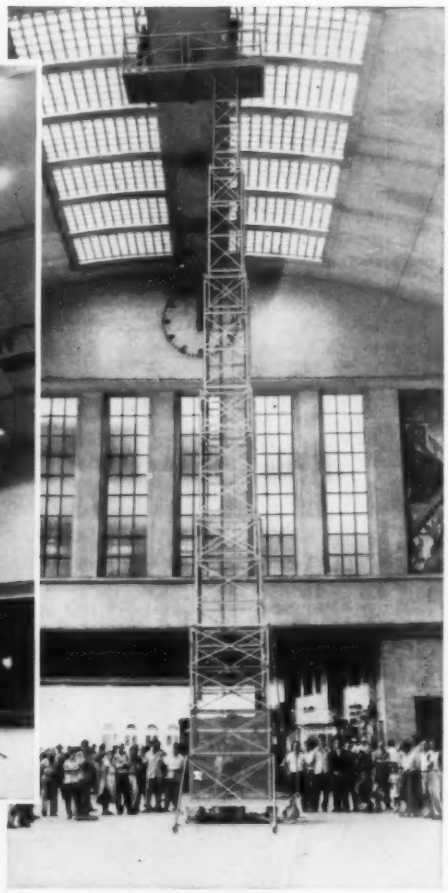
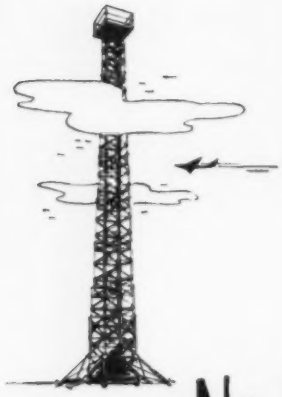
Economy Hi-Reach Telescoper. Estrada de Ferro Central do Brazil. Platform lift 61'. Minimum height to clear 14'.



Spokane Coliseum



Estrada de Ferro Central do Brazil.



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THE RECORD REPORTS

NEWS FROM CANADA

(Continued from page 36)

CREDIT CURBS SHOW RESULTS — WILL GOVERNMENT EASE UP?

Speculation is growing that the Federal Government's tight money policy may be relaxed in coming months, especially with an election looming on the horizon.

There are signs that the credit restrictions introduced by the Bank of Canada last spring have had their effect. House building, for instance, has fallen. Lumber prices have dropped, particularly in British Columbia, partly because of the decline in residential construction and partly because of a drying-up of the export market. There has been a surprising slack in the demand for steel, an indication that the manufacture of household appliances and equipment has been hit as well. If the labor force this winter is no greater than it was a year ago, and if the demand and price for certain basic materials remain at a lower level, it is possible that the Government might consider that the combination of these things indicated the passing of the necessity for a tight money policy.

NOVA SCOTIA — Regional high school for Bridgetown; architect, Douglas A. Webber, Halifax

Bank Officers' Talk

At their annual meetings, spokesmen for Canada's chartered banks have appraised the situation in various ways.

F. W. Nicks, general manager of the Bank of Nova Scotia, expressed belief that no significant change in current monetary policy could be expected as long as consumer spending remains high and capital investment continues at the present "extraordinary" level.

"After all," he said, "its [the policy's] purpose is not only to check inflation but to prevent a boom from getting out of hand and turning into a really serious downturn."

Gordon R. Ball, president of the Bank of Montreal, upheld the effectiveness of the Government's monetary policy in curbing the threat of inflation, and credited the collaboration of the banks in keeping credit expansion within bounds. Latest figures showed, he

(Continued on page 44)

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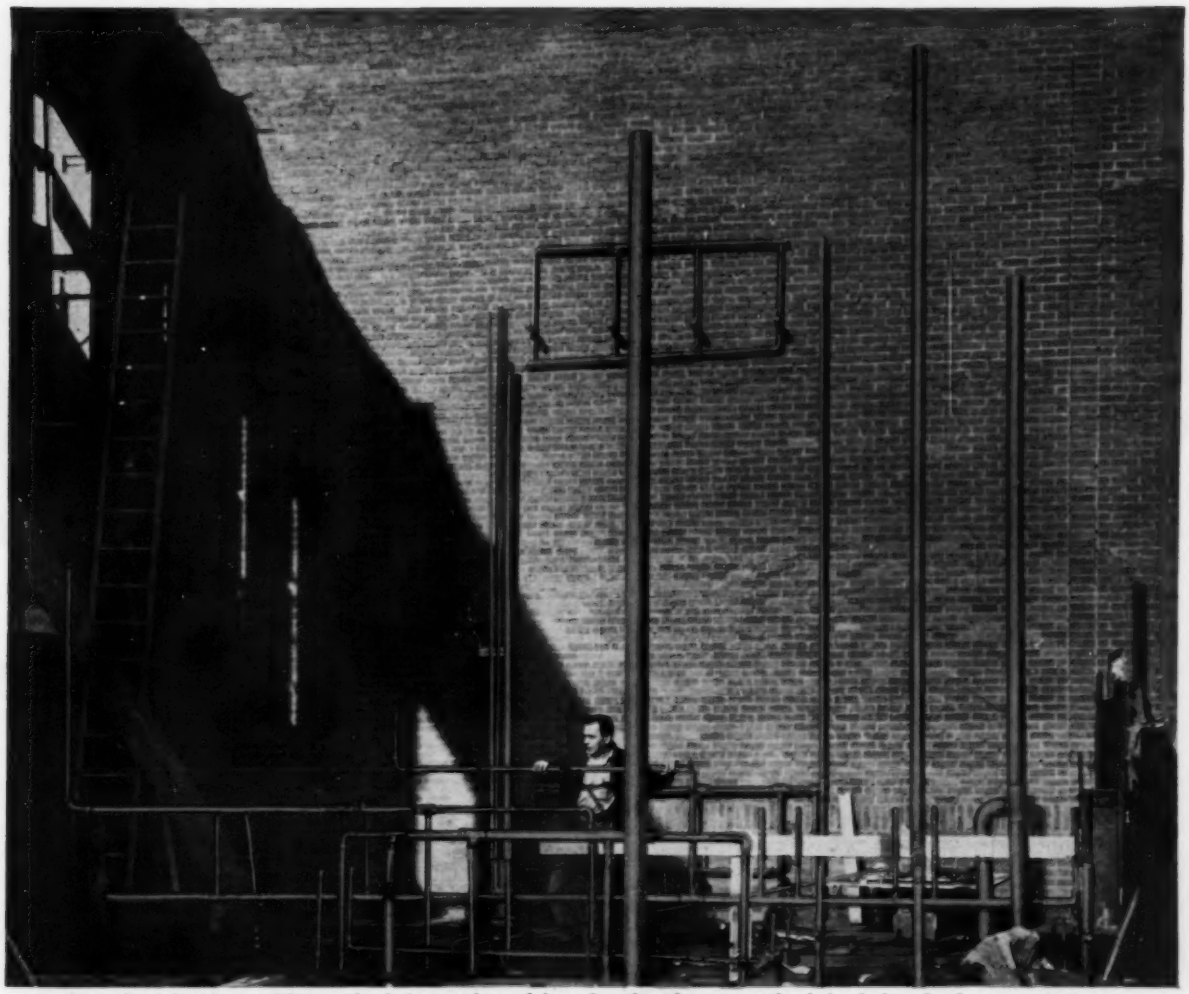

In this school building addition, the light weight and long lengths of copper tube helped the plumbing contractor complete much of his roughing-in ahead of other building construction. Note the preassembled unit high on existing building wall.

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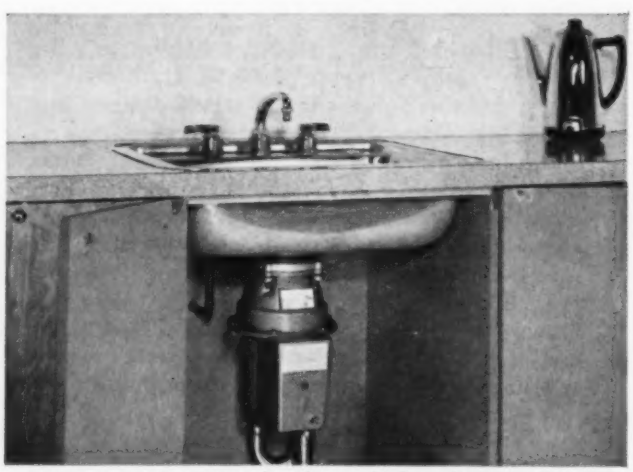
Big sales-making extra! New Westinghouse undercounter dishwasher installs easily with special Y-tail pipe that eliminates extra trap. "Custom" front panels come in 5 Confection Colors, Brushed Chrome, Antique Copper, prime-coated steel, matching wood front.



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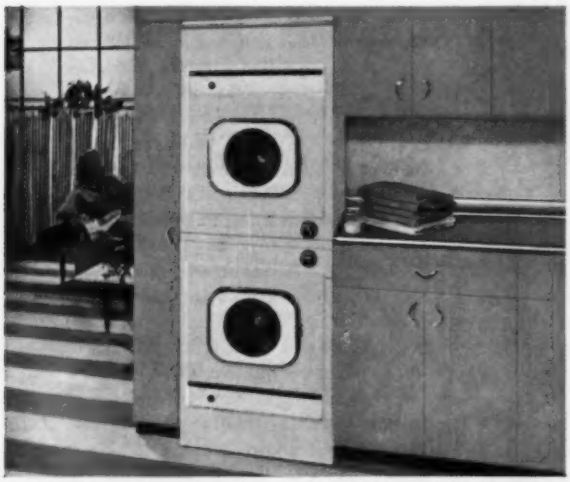

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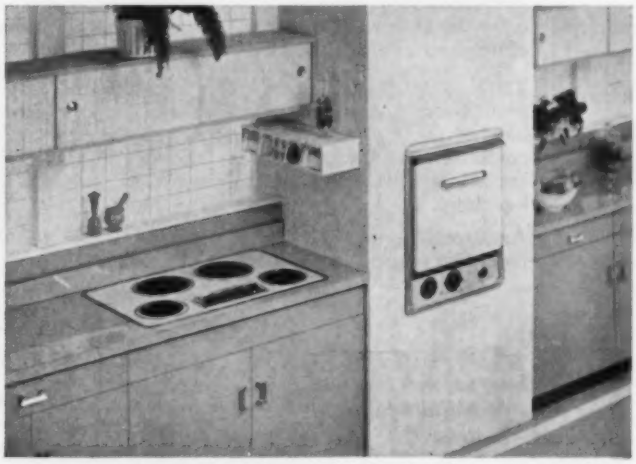
Most flexible built-in range line in the business. You can combine ovens and platforms anyway your prospect likes . . . it's a personal touch that helps you sell. Shown: Giant 24" *interior-width* oven; separate 2-unit platforms with remote controls.



Another arrangement is 17" oven with 4-unit surface platform. Platform controls come flush-mounted . . . oven has clock and timer. Line offers choice of 5 Confection Colors, Antique Copper and Brushed Chrome. You can be *sure* . . . if it's Westinghouse.

THE RECORD REPORTS

NEWS FROM CANADA

(Continued from page 40)

observed, that Canada's money supply is only slightly higher than a year ago.

Another opinion was advanced by A. C. Ashford, president of the Toronto-Dominion Bank. He warned that alertness of the Government to deflationary trends which might develop was of prime importance. Coming months, he said, may prove to be a real test for monetary management.

NEWS NOTES

Candiac, a city of 50,000, would be built on a 2500-acre site on the south bank of the St. Lawrence across from Montreal under an "integrated development" scheme proposed by a French syndicate in which the Suez Canal Company is reported to be one of the biggest backers. . . . **Tallest building in Saskatchewan** will be a 14-story "skyscraper" to be built in Regina for the Saskatchewan Power Corporation at an estimated cost of $4 million. Architect is Joseph Pettick of Regina. . . . **Winnipeg Builders Exchange** opened its new office building December 5; architects were Waisman & Ross of Winnipeg. . . . **The National Building Code,** after a two-year test period, appears to be winning almost universal acceptance by municipal authorities, subject, of course, to adjustment for local conditions, according to a survey made by *The Financial Post.* The *Post* thought that within five years the Code would be quite generally effective. . . . **André Blouin,** Montreal architect, has just been appointed Canadian representative of the French monthly *l'Architecture d'Aujourd'hui.* . . . The **Association of Professional Engineers of British Columbia** has elected as its new president W. O. Richmond, head of the Department of Mechanical Engineering of the University of British Columbia. . . . The **Alberta Association of Architects** has named W. W. Butchart chairman of its Architects-Engineers Liaison Committee. . . . **Robert F. Legget,** director of the National Research Council's Division of Building Research and an Honorary Fellow of the R.A.I.C., has been made a Fellow of the Royal Society of Canada. . . . **Ontario Association of Architects,** through its Committee on Public Relations, is supplying the material for "Ask Your Architect," a new question-and-answer feature appearing on the Saturday realty page of *The Telegram,* a Toronto evening daily. . . . **Office Notes** — *Balharrie, Helmer & Morin* is the new name of the Ottawa architectural firm known as Abra &

(Continued on page 46)

Wood Beauty

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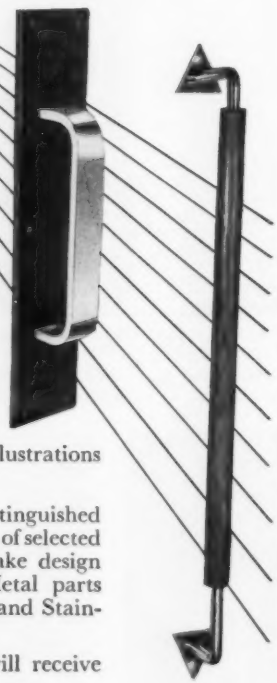

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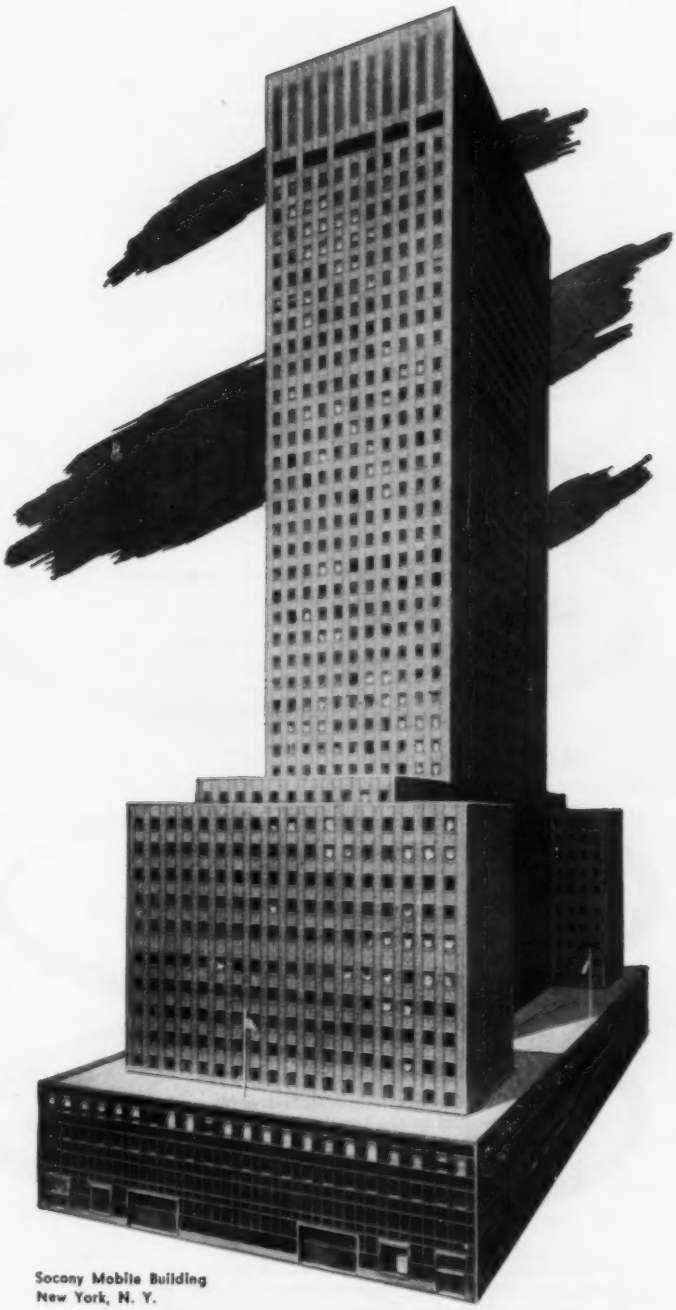

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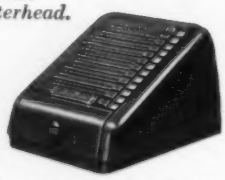
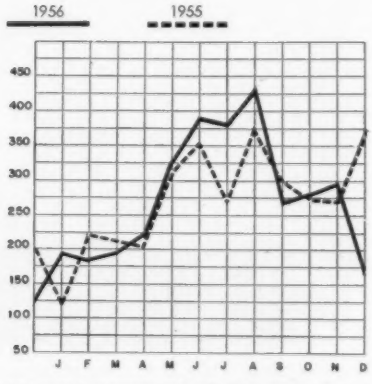


NEWS FROM CANADA

(Continued from page 44)

Balharrie until the recent retirement of W. J. Abra. New partners of J. Watson Balharrie are d'Arcy G. Helmer and Harold R. Morin. . . . Architect *Henry Fleiss* is now located at 501 Yonge Street, Toronto. . . . *Koyander & Wright*, Architects, have moved to 1956 West Broadway, Vancouver. . . . New address for *D. N. McIntosh & Associates*, Architects and Engineers, is 430 Whitney Avenue West, Hamilton, Ont. . . . *Roy E. Orlando* has opened an office for the practice of architecture at 1912A Avenue Road, Toronto. . . . *Clark C. Pearson* has become a member of the firm of architects now practicing as Hanks, Irwin & Pearson, 2848 Bloor Street West, Toronto. . . . *Venchiarutti & Venchiarutti*, architects and town planners, have opened new offices at 194 Wilson Avenue, Toronto. . . . **Annual Meetings Coming Up** — *Province of Quebec Association of Architects*, Alpine Inn, Ste. Marguerite, Que., Feb. 1–3. . . . *Ontario Association of Architects*, Royal York Hotel, Toronto, Feb. 15–16. . . . *Manitoba Association of Architects*, University of Manitoba and Royal Alexandra Hotel, Winnipeg, March 30. . . . *Nova Scotia Association of Architects*, Lord Nelson Hotel, Halifax, May 17. . . . *Dominion Council of Professional Engineers*, Nova Scotian Hotel, Halifax, May 22–24. . . . *Royal Architectural Institute of Canada* (50th anniversary meeting), Chateau Laurier, Ottawa, May 29–June 1. . . . *Engineering Institute of Canada*, Banff Springs Hotel, Banff, June 12–14. . . . *Town Planning Institute of Canada*, Hotel Vancouver, Vancouver, Sept. 30–Oct. 2. . . . *Canadian Association of Real Estate Boards*, Hotel Vancouver, Vancouver, Oct. 19–24.

Contracts Awarded: Comparative Figures*
(in $ million)



*Compiled by the editor and staff of The Building Reporter from information collected by Maclean Building Reports

(More news on page 48)

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MORE CONSTRUCTION MONEY IN PROPOSED 1958 BUDGET

President Eisenhower's new budget for fiscal 1958, submitted to Congress at mid-January, points the way toward an increase in many Federal construction and aid-to-construction programs.

The larger expenditure increments proposed by the President for the year starting July 1 included military public works as a whole, and civil functions of the Army's Corps of Engineers. The former would increase from estimates of $2037.1 million in the current year to $2323.5 million in fiscal 1958, with the Navy and the Air Force showing increases, the Army a decrease. Civil works expenditures, for such projects as flood control, navigation, and multi-purpose projects with power would go from $456,300,000 to $515,065,680.

The President's new school construction aid program, in effect compressing the five-year program defeated last year into four years, was reflected in his request for new authorization of $451 million. He would like to spend $185 million of this during the 1958 fiscal period.

The new budget sought an increase of almost $15 million in Hill-Burton grant expenditures for public hospitals and in health research facilities. The figure would mount from $38,410,000 in fiscal 1957 to $52,747,500 in fiscal 1958.

An estimated expenditure increase from $25.5 million in 1957 to $33.7 million in 1958 is budgeted for the Architect of the Capitol.

Expenditures for advance planning of public works, a practice strongly endorsed by the President, were estimated for 1958 at $39 million, including $11 million for the Corps of Engineers and Bureau of Reclamation to carry on planning of some 85 projects already authorized. Planning will be underway next fiscal year on buildings for the Smithsonian Institution, the National Bureau of Standards, various Federal hospitals and other buildings.

The construction of State Department buildings abroad will remain at about the same level during the next fiscal year.

The President said he would send up a supplemental 1957 request for $10 million for sites and expenses in Public Buildings Service's lease-purchase contract program. This would permit "some advancement in acquiring sites, contracting for plans, and other expenses," according to the budget wording.

Under the lease-purchase program to date, 144 projects involving construction costs of $602 million had been approved. PBS has indicated it intends to send another $200 million worth of projects to Capitol Hill for approval by Congressional committees at this session of Congress, and about $100 million next session, bringing the program total close to $1 billion.

In his State of the Union message, delivered in person on January 10, the President had urged the Congress to give high priority to his school construction proposals, which were to be submitted in a later message. Also in the State of the Union message was a reaffirmation of Mr. Eisenhower's "partnership" principle regarding water resources development.

(*Continued on page 356*)

BRUNER INDUSTRIAL WATER SOFTENERS ARE FREQUENTLY Specified BY LEADING ARCHITECTS FOR IMPORTANT INSTALLATIONS!

STATLER HILTON HOTEL, Dallas, Texas
Architect: William B. Tabler, New York, N. Y.
Consulting Engineers: Jaros, Baum and Bolles, New York, N. Y.
Plumbing Contractor: Brown and Olds Plumbing Co., Dallas, Texas

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ARCHITECTURAL RECORD

WESTERN SECTION

Western Editor:
ELISABETH KENDALL THOMPSON **2877 Shasta Rd., Berkeley 8, Calif.**

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FULL CIRCLE

John Kewell, a Los Angeles architect whose architectural training was at Canada's McGill University, takes a subjectively critical look at architectural design today. Because architecture is and always will be a highly personal expression, what he has to say should call forth opposing views. Forthright discussion is a healthful thing and it is hoped that many will want to take part in such a discussion.

Send comments to the Editor, Western Section, Architectural Record, 2877 Shasta Road, Berkeley 8, California.

IN THIS YEAR OF 1957 Eclecticism isn't a polite word to use in discussing Architecture. But how can we escape from using it and still have a realistic appraisal of today's architecture? Actually, we never have been able to ignore eclecticism as a factor in this country's architectural development.

Time was when the first Cape Cod house was built on Cape Cod. Those builders were the first eclectics — at least, the first American ones. They can scarcely be considered to have created the forms they used; they copied them faithfully from what they had seen on the other side of the Atlantic.

In view of that day's available heating, lighting and insulating means, and the climate of the region, the forms met the requirements. Granted that those early builders didn't have to reach so far as do today's Cape Codders who must somehow conceal a television aerial. Granted too that wood is wood and a saw is a saw, but — with apologies to Ogden Nash — Santo Domingo was not Cathay and Massachusetts was not Devon, even in 1700.

From Cape Cod our architectural development proceeded to Neo-Gothic and Neo-Grec, and on to regal Roman and ripe Romanesque; and now we have arrived at Contemporary. It is distracting that "contemporary" is inherently a relative concept. Like "bigger" which must be "than" something else, contemporary must be "of" or "with" a thing, a person or a period. This implies, perhaps more significantly than we know, that "contemporary," as descriptive either of a trend or of an achievement, cannot be used to cover an unlimited amount of time. But let us assume that what followed the revivals was "Contemporary."

Nobody talked esthetics to me in the Twenties as I was under age. (This can be an advantage.) However, I remember photographs of what was built: "art moderne" with the porthole, and the eyebrow (even now not yet extinct, though used today in vertical form, facing due south for sun control, especially between nine and four) and the "unholy trinity" — those three horizontal lines, the middle one usually longer, which graced the corners instead of entablatures.

Not until the late Thirties were clichés, albeit classical, recognized as such; then the filing cabinet ceased to provide inspiration and there began to be more men sufficiently competent to create form from the plans and construction techniques they had developed to solve their problems.

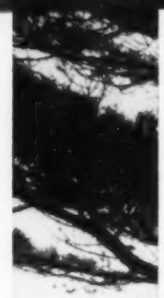
But it was with the discovery of Piet Mondrian that the millenium arrived for the plate-file designers, and since then we have had Mondrians of all sizes and shapes, fashioned of all kinds of materials, all over the country.

The same necessity that made the powder room window on one side of the main entrance to the Georgian house as big, corniced and modillioned as its symmetrical counterpart in the living room now causes similar shenanigans to allow an equally unsuitable, though very different, piece of scenery to be stretched over today's building. This same necessity has made strange bedfellows of the pseudo-functionalist Mondrian enthusiast and the apologetic traditionalist.

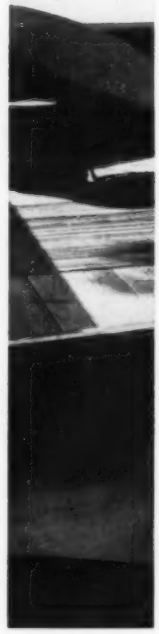
This is where we came in — we've gone full circle.

What do *you* think?

John Kewell



New second floor apartment. Shaded area below, original house



Residence of Howard Moise
Berkeley, California

Howard Moise, Architect

ADDITION TO A HILLSIDE HOUSE

Jeffrey Belcher

Built in 1929, original redwood shingled house is part of Berkeley's architectural lineage; new upper floor is an independent apartment

THE ADDITION of an upper floor to this 25-year-old house does more than provide an apartment for rental; it fits so well into the overall design that it seems to complete the original house. Each part was, however, the work of a different architect.

The original house, designed in 1929 by architect-engineer Walter T. Steilberg, has its roots in the much earlier work of Maybeck, John Galen Howard and Julia Morgan as an example of the continuously evolving concept of domestic architecture, first noticeable some 70 years ago, which has been the hallmark of Bay Area architecture.

The addition carries on this tradition and brings it up to date. Although the new apartment is as much of today as the original house was of its day, the same feeling pervades both. The apartment plan is open, casual; although its overall area is small, the skillful relation of spaces prevents any sense of crowding. Redwood, used inside and out, and plaster board painted in a soft neutral color except behind the hikie where it is a warm red-brown, contribute in texture and color to that quality.

From deck, opening off both living area and kitchen, view under spreading branches of tall pine is to Berkeley, the Bay and Golden Gate. Painting is by Michael Czaja

Left, dining area opens off living room-library; door at end is to kitchen; sliding doors at right lead to bedroom alcove. Center, stairwell replaces former porch. Planes, surfaces and materials are detailed with elegant simplicity. Right, living room-library is out of path of circulation but completely open to rest of apartment

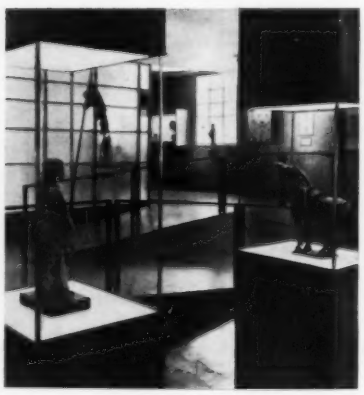
Staircase in walnut with balustrade of acrylic plastic and black iron rail was part of new work in remodeling

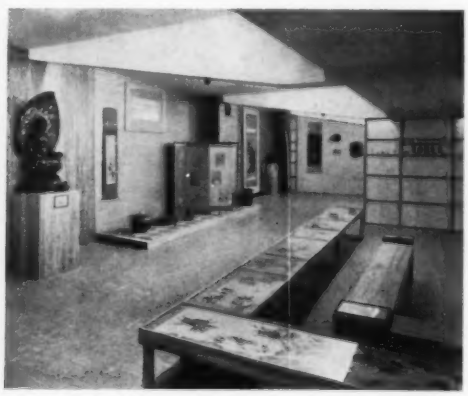
ORIENTAL GALLERIES, DENVER ART MUSEUM

Burnham, Hoyt, James Sudler Associated Architects

THE DENVER Art Museum's newest unit, the just opened Oriental Galleries, is — like the earlier units — a triumph of design over ordinary shelter. The Museum's location in downtown Denver in the Civic Center is excellent for patrongage but available space for expansion has been limited. In the last six years the city has acquired several nondescript buildings (a factory, a garage, a union headquarters) and has had them successfully transformed into display space that meets the museum's needs and has attracted notice from all parts of the country.

By removing partitions so as to get an uninterrupted flow of space throughout the building's 9200 sq ft of floor area, and by skillfully using materials for texture and contrast (walnut and acrylic plastic, black iron and gumwood, burlap-textured plastic for display backgrounds and for covering window openings), the architects provided not only flexible space for changing needs but a pleasant environment for viewing the displays.





Marshall Brooks

Right: burlap-textured plastic set in gumwood frame is used here for display of Indian miniatures, and is also used over windows. Display cases are of gumwood and clear glass. Far right, Japanese scroll painting is displayed in low case with gumwood benches running along it for easy and comfortable viewing

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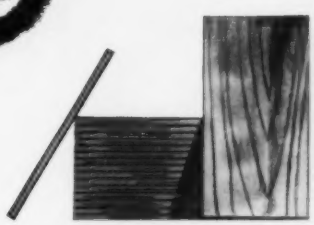
"Can't get this dad-burned sliver o' wood to burn," rumbled Paul Bunyan to Babe, the Blue Ox. A mountain top trembled and fell, damming up a river. "Babe, what the cuss do you suppose them Baxter folks done to this here piece o' plywood? ✻ She's dry—but she JEST DON'T BURN!"



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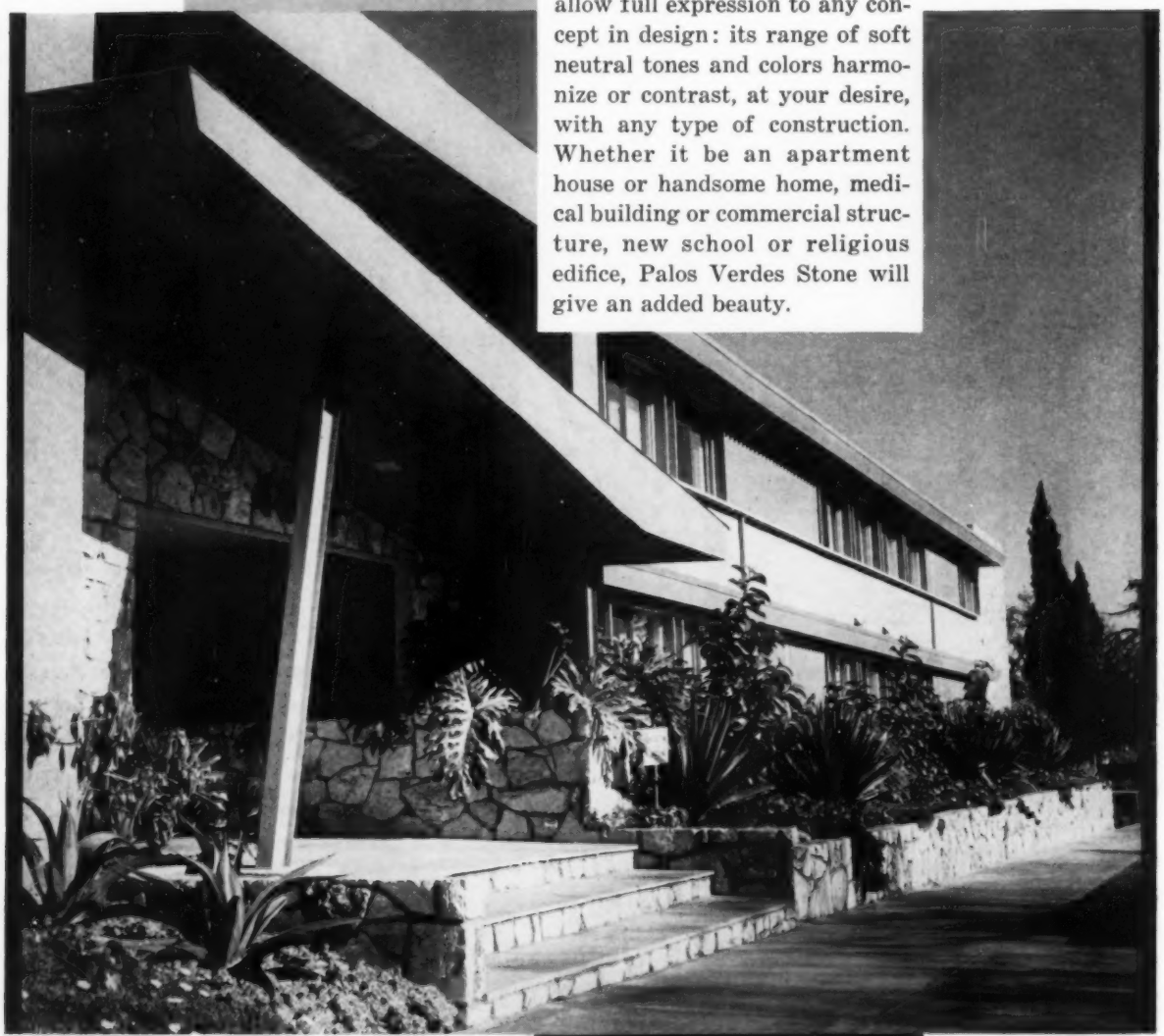

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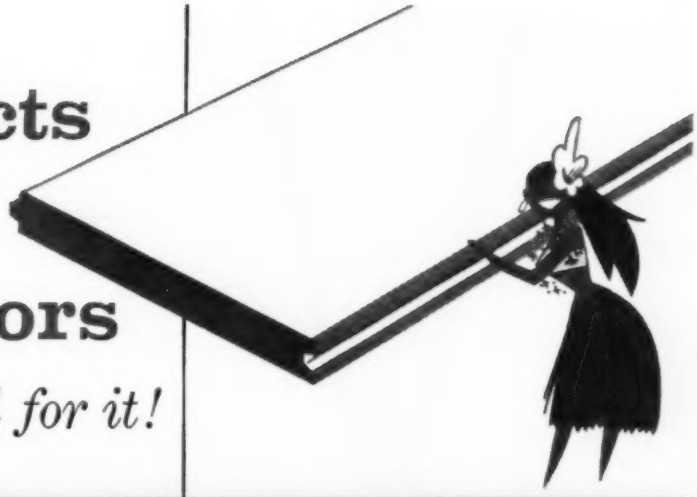

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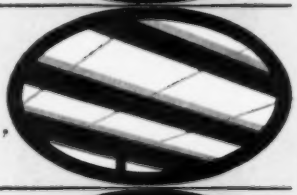

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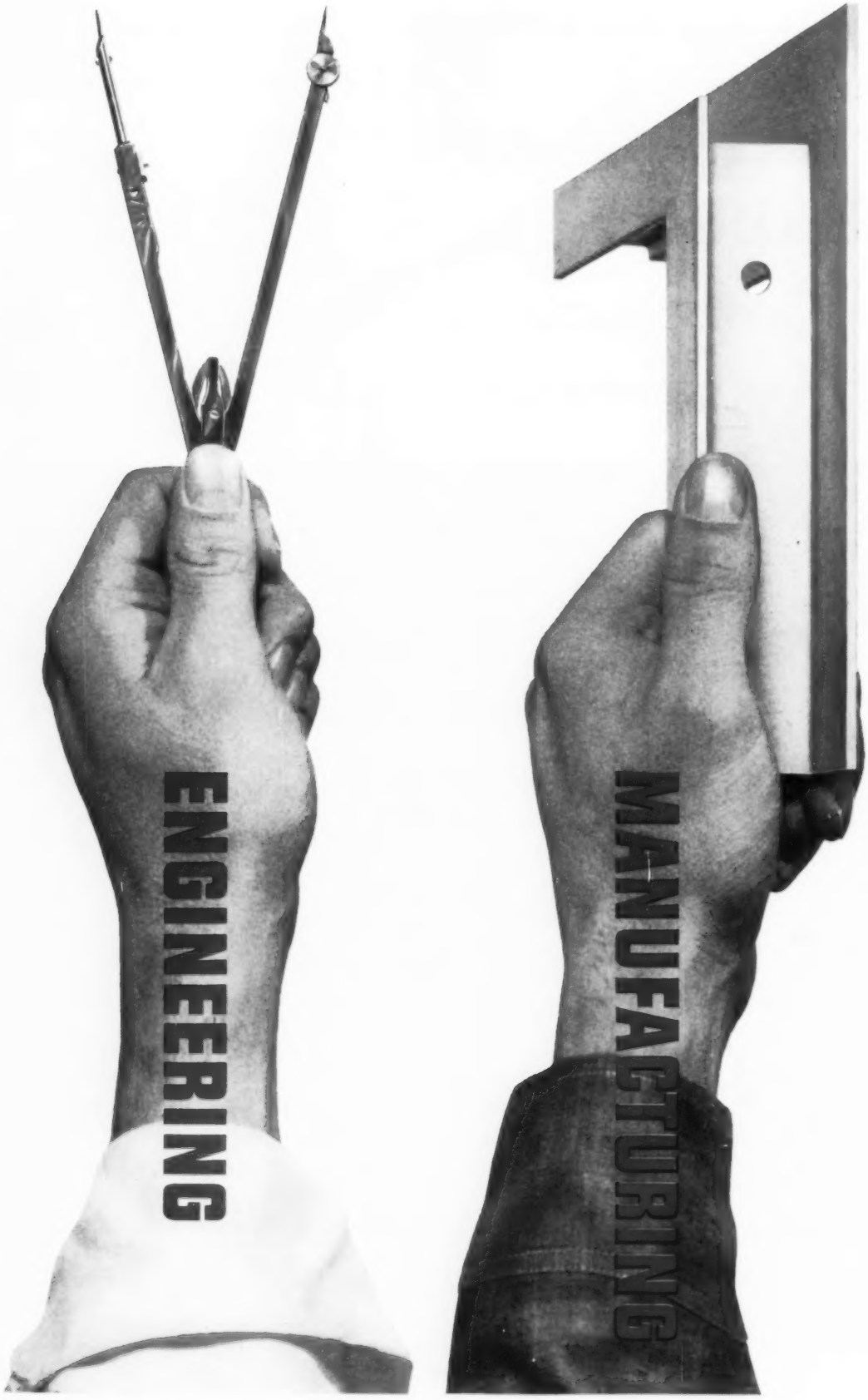
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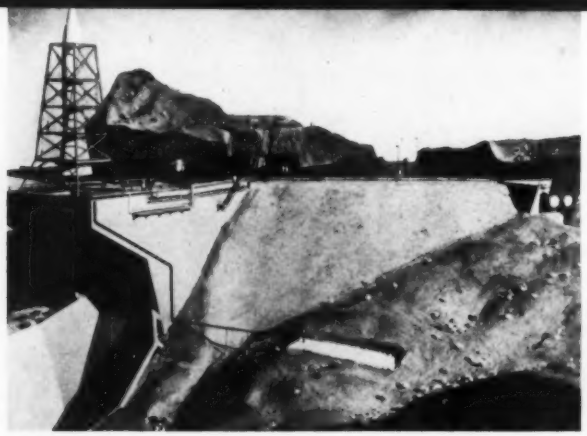

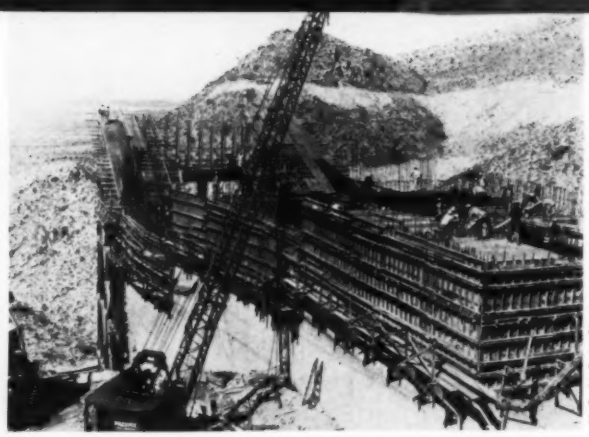

U. S. Air Force Photo

Test stand deck cantilevers 54 ft and is anchored 60 ft in solid rock. Structure is designed like reinforced concrete bridge, takes high dead loads as well as huge upward thrusts at firing. Ten-story tower of heavy timbers supports forms for cantilevered deck during pouring. Overall length of stand is 200 ft

ROCKET TEST STAND UNDER WAY AT DESERT AIRBASE

THIS MASSIVE structure at Edwards Air Force Base in Southern California, being built as a base for testing rocket engines and missile components, will take up to 1,000,000 lb of upward thrust developed during static test firings as well as extremely high dead loads.

To counterbalance these two opposing load forces, two heavy concrete footings, set deep into rock, are being used: one runs across the transverse axis of the stand at the rear of the structure; the other — 30 ft wide, 120 ft long, 20 ft deep — is at a depth of 146 ft below the surface of the deck. Both are of solid mass concrete with reinforcing on the face of the concrete only.

The deck from which firing takes place is 200 ft long and cantilevers over a flame deflection pit, 150 ft below, which will carry away the gases generated at firing. Designed to withstand temperatures up to 2000 deg F, the pit has a bottom slab of 18-in. concrete topped with 4 in. of special refractory gunited concrete which eliminates need for the more usually used water-cooled steel surface (of importance in desert country, such as Edwards Base, where water is scarce). Resonant vibration, an acute problem in other such stands, is minimized here by use of mass concrete.

Other buildings included in the project are an instrumentation and control building, connected by a 300-ft tunnel with the test stand, and partially protected from shock waves at firing by several feet of earth on the elevation toward the test stand; three camera and observation posts, air conditioned and furnished with a 30-minute air supply to operate at maximum occupancy with all inlets and exhaust ducts closed; and storage facilities for propellant fuels and high pressure gases.

The Ralph M. Parsons Company of Los Angeles were architects-engineers for the structure. John J. Gould and Henry Degenkolb of San Francisco were structural engineers for the falsework. Air Force personnel on the job included Lt. Col. Henry W. Yagel, Installations Engineer for Edwards Air Base, and Colonel Edwin M. Eads, AF Installations Representative. The South Pacific Region, Corps of Engineers, USA, under Brigadier General William F. Cassidy, had design and contract responsibility.

PRE-TENSIONED PANELS, GIRDERS MADE AT JOB SITE

Robert Donahue

Pre-tensioned concrete roof panels and girders were made on the job site for this new warehouse and office building for General Electric Lamp Division in Los Angeles. The 496 panels and 84 girders were cast in five beds, 28 panels and seven girders were produced every three days. Walls are of tilt-up construction. Albert C. Martin and Associates were architects and engineers

Again in 1957.... more school doors will swing on STANLEY hinges than on *any other kind!*

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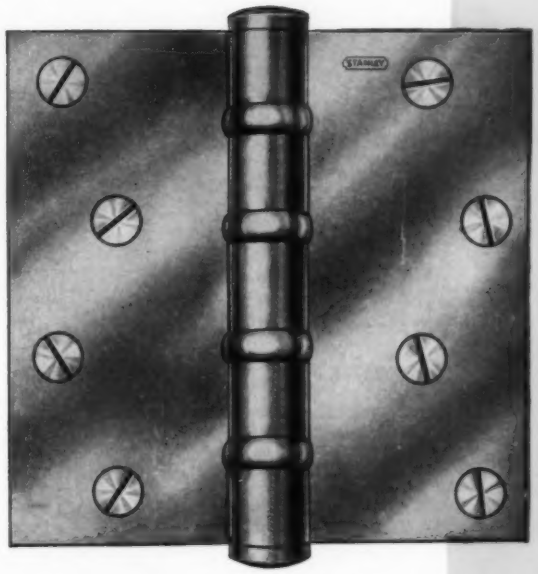

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general contractor:
Ernest Schrock, Vacaville
masonry contractor:
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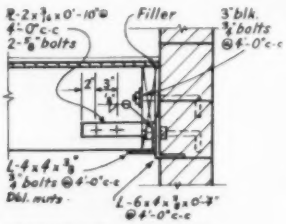
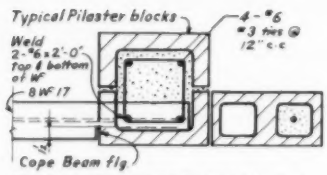
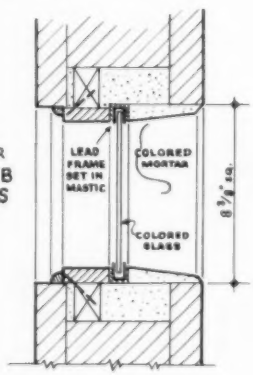


TYPICAL MEZZ. FLOOR JOIST DETAIL @ C.B.



TYPICAL PILASTER DETAIL D-2



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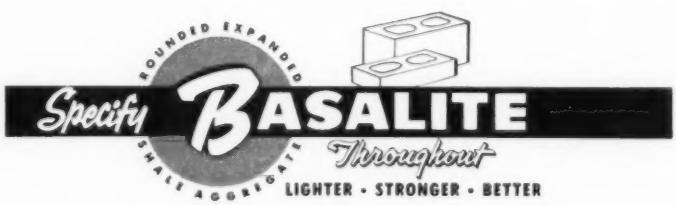

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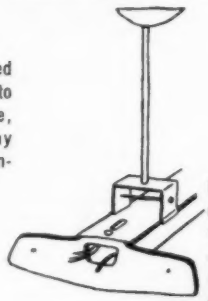
Constructed of more die-formed parts than almost any other fixture of its type for rugged performance.

An advanced concept of lighting comfort . . . the Sunbeam SIXTEEN-EIGHTY series has been critically engineered for the ultimate in universal application and lighting comfort.

Heavy gauge, die-formed end plates rigidly held to main channel. Large, smooth-edged wireway opening permits fast continuous row mounting.



For increased flexibility and ease of installation, die-formed channel accommodates sliding clamp hangers. No connectors required for continuous rows.

For general lighting the SIXTEEN-EIGHTY is unsurpassed for efficient long-term lighting economy.

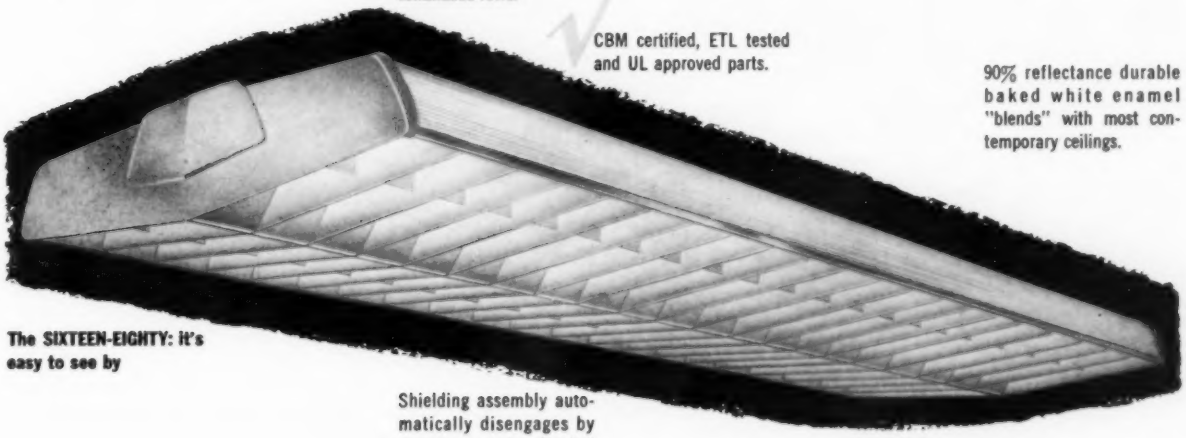
Extruded metal rail reinforced plastic side panel to insure freedom from warpage or accidental breakage while enhancing design appearance.

CBM certified, ETL tested and UL approved parts.

Double acting positive spring clips retain side panels firmly to prevent rattling and to allow simple snap-in replacement.

Translucent white plastic side panels of light stable Dow virgin #647 Styron are ribbed and contoured for architectural appeal. A 10° slant helps maintain longer lasting high efficiency and contributes to better brightness control from normal viewing angles.

90% reflectance durable baked white enamel "blends" with most contemporary ceilings.



The SIXTEEN-EIGHTY: it's easy to see by

Shielding assembly automatically disengages by means of spring-loaded latches and remains suspended from channel by jack chain for quick accessibility.

Surface or pendant mounted by use of nearly universal knockouts and sliding clamp channel.

Exacting photometric control achieves extremely high efficiency (up to 87%) with a controlled distribution of approximately 60% up and 40% down, a brightness of less than 1 c/in² within the shielded zone.

Rigidly constructed, vibration-free interlocked louver provides high, comfortable shielding of 35° x 35°—better than most school requirements.

Engineered for maximum heat dissipation for longer ballast life.

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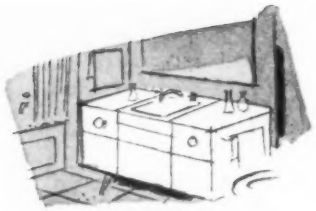

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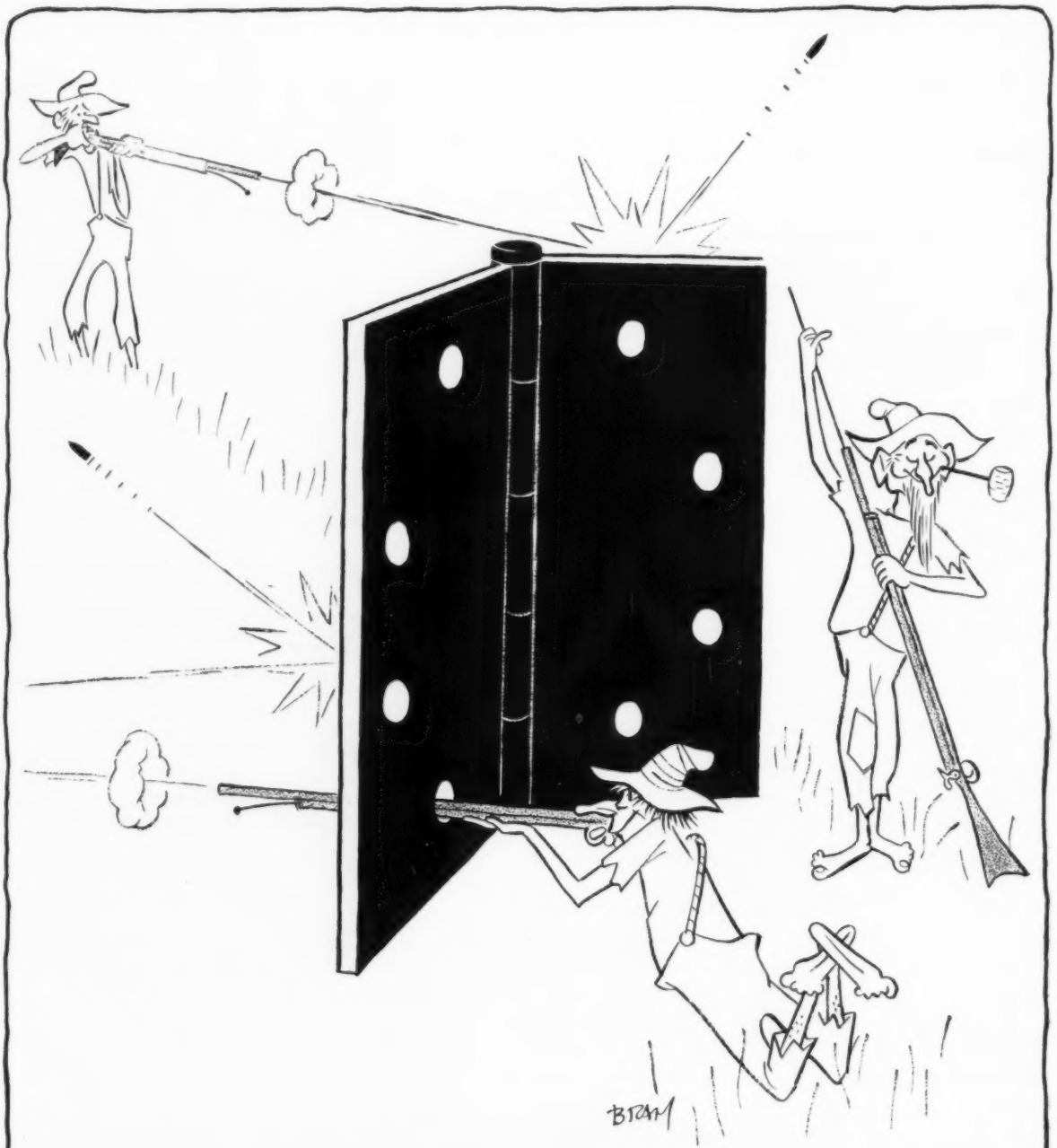

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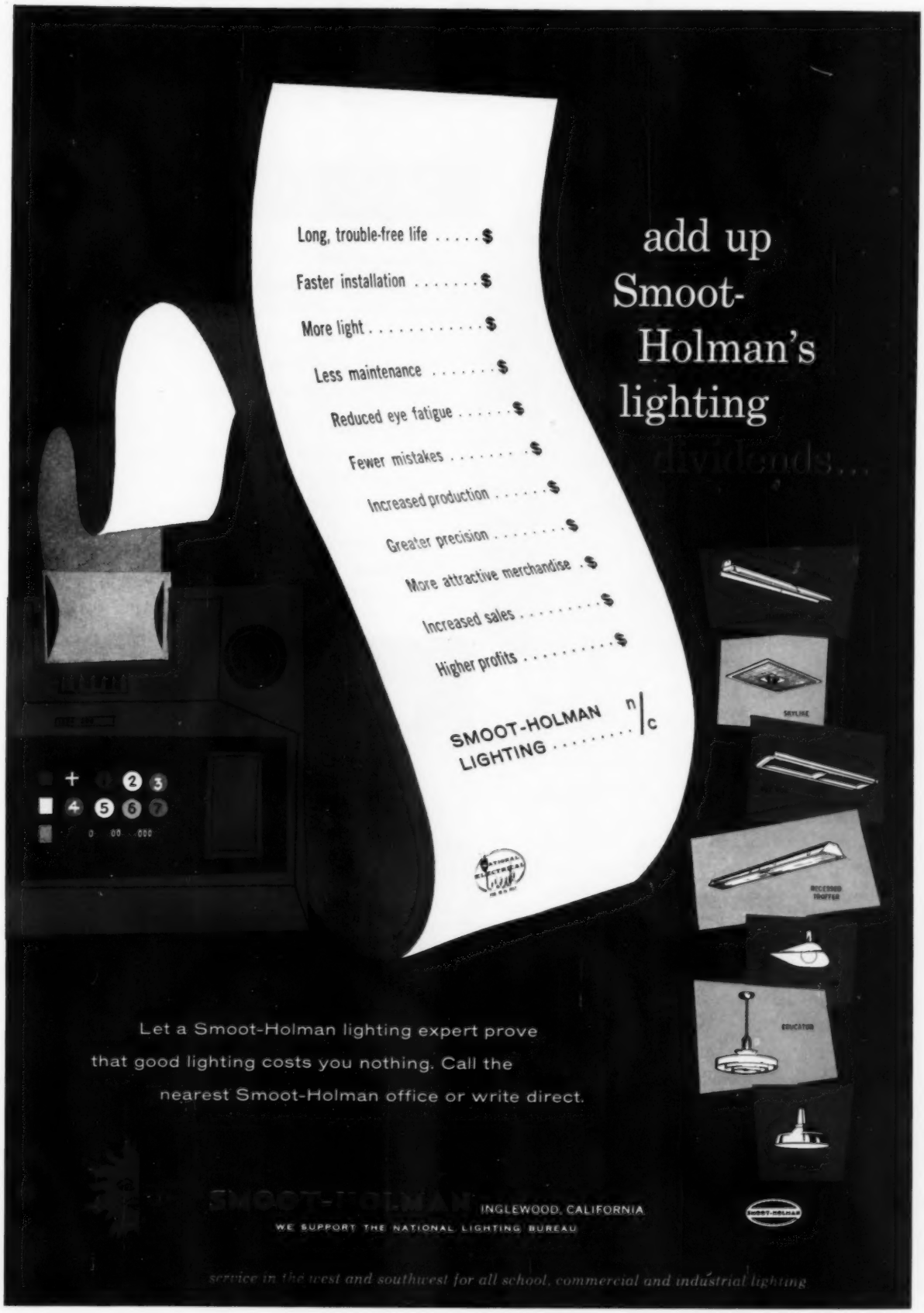
HAGER HINGES **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Let a Smoot-Holman lighting expert prove that good lighting costs you nothing. Call the nearest Smoot-Holman office or write direct.
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service in the west and southwest for all school, commercial and industrial lighting

cylindrical and mortise . . .
both in matching trim

ZEPHYR DESIGN . . .
heavy duty cylindrical lockset in cast brass, bronze or aluminum

Compact, easy to install, complete range of functions despite space limitations of cylindrical housing.

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Lockwood has contributed to this engineering advance as well as introducing important construction features which have increased durability and security.

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Today Lockwood's 'H' Series is recognized as the leader in heavy duty cylindrical locks.

ZEPHYR DESIGN . . .
with heavy duty mortise lock in cast brass, bronze or aluminum

Modern, standardized mortise locks no longer require mortises of varying sizes. Lockwood engineers pioneered the standardization of external dimensions.

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As a result, architects can now specify mortise locks for the complete installation or only for certain doors.

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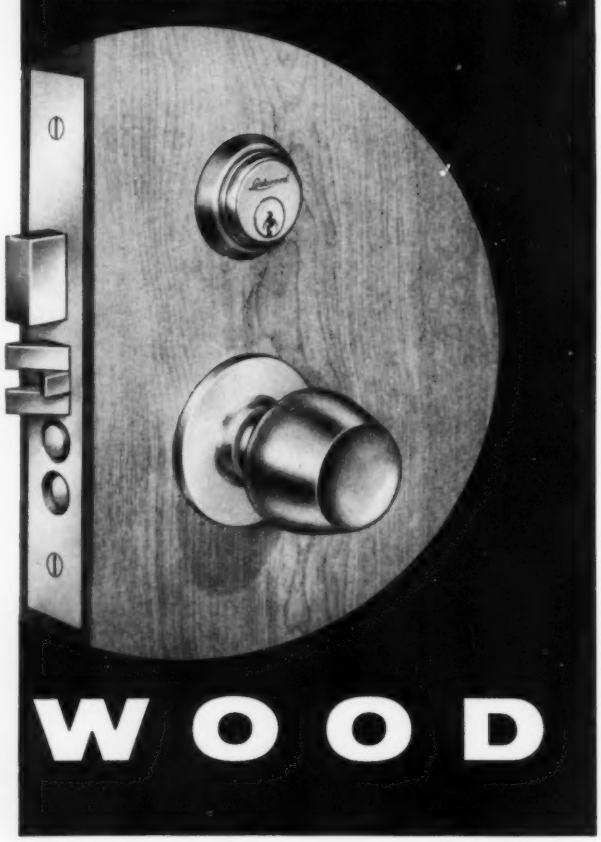
And Lockwood makes it possible to utilize cylindrical and mortise locks with matching trim in one installation.



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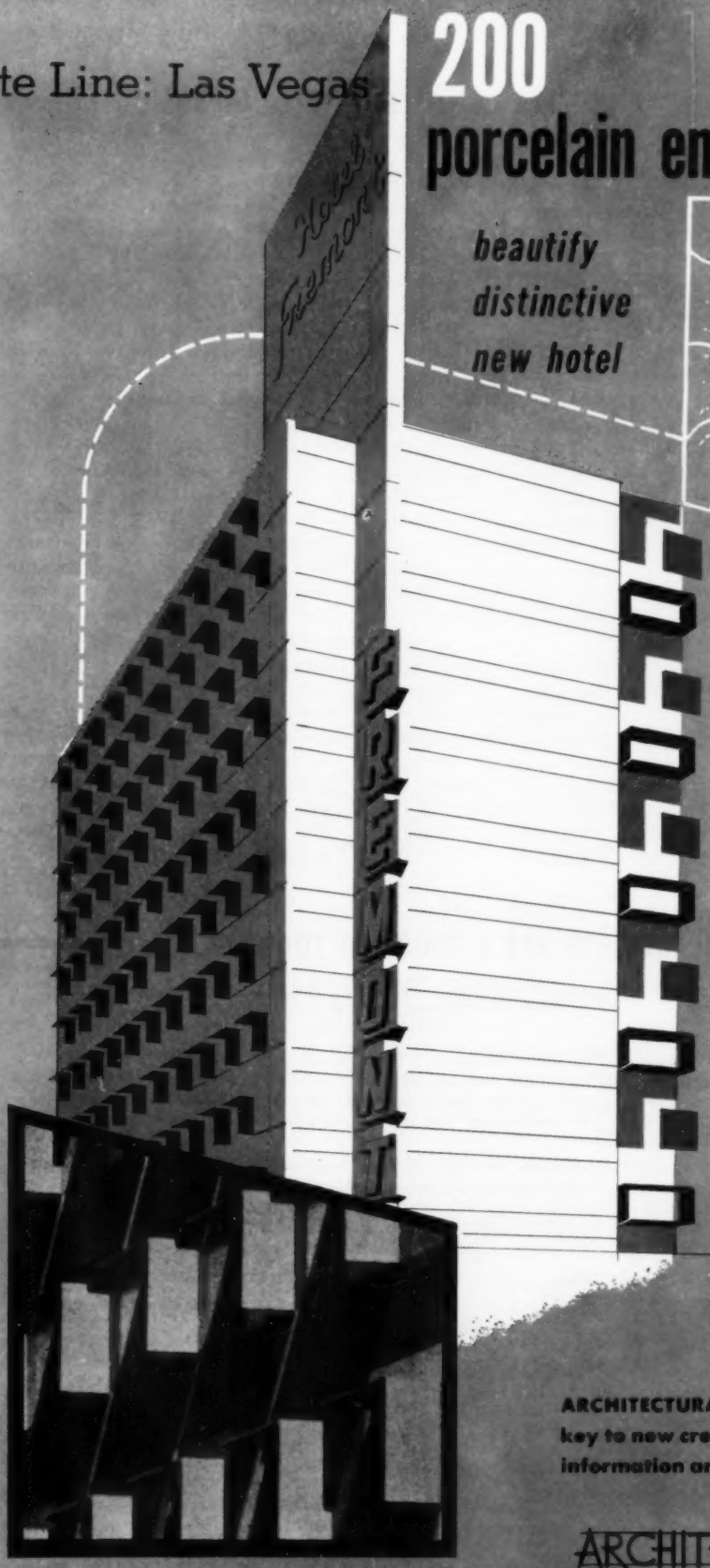
Date Line: Las Vegas

200 porcelain enamel sunshades

beautify distinctive new hotel



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The Fremont Hotel is Nevada's tallest building, a 13-story composition of vivid colors. To effectively and handsomely protect guests from severe desert sun, hundreds of striking, angular sunshades were applied. Architectural Porcelain Enamel was used...for lasting color quality, resistance to deterioration and virtual freedom from maintenance. Lightweight porcelain enamel panels rhythmically punctuate the facade...an eye-catching feature, even in glittering Las Vegas.

ARCHITECTURAL PORCELAIN ENAMEL can be your key to new creative ideas, too. *Write today for full information and color guide.*

FREMONT HOTEL, Las Vegas
Architects: Wayne McAllister and William C. Wagner
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SAN FRANCISCO

Finis for a Fair Building

When the Golden Gate International Exposition opened in 1939 on Treasure Island it was distinguished by its delightful night lighting effects, its unique situation in San Francisco Bay, and by the architectural worth of a handful of its buildings. One of these — the Women's Club building by William Wilson Wurster — became a club for naval officers when in 1941 Treasure Island became a U. S. Navy base. Gardner Dailey's Brazilian Building, like other fair buildings, was torn down for more prosaic wartime "facilities." Another of the Exposition's few architectural gems, the United States Government Building (which houses the government's exhibition on the American Indian among other things) was retained after Pearl Harbor and used as a theater and then as a gymnasium.

But last year the Navy figured it had another use to which it wanted to put the site of the 17-year-old frame structure and it requested permission to tear the building down. The job of demolition, when permission comes, will be simpler now: fire completely destroyed one wing in a spectacular early morning blaze. The days of the Federal Building's fame were gone, anyway; only a few remembered that this had been one of the Exposition's architectural sights.

World Conference: Prestressed Concrete

A conference whose program is being designed to present some of the foremost names in the field of prestressed concrete will be held July 29 to August 2 at the Fairmont Hotel, San Francisco. This World Conference is being presented by the University of California in cooperation with the Prestressed Concrete Institute which will hold its annual meeting immediately before the opening of the Conference.

In addition to the program of papers (in English) on all aspects of design and construction in prestressed concrete, there will be field trips to prestressing plants and construction jobs nearby.

Further information is available from Professor T. Y. Lin, Division of Civil Engineering, University of California, Berkeley 4, Calif.

SEATTLE

Civic Center Bonds to be Authorized

Seattle is wasting no time now that the public has spoken on the matter of a civic center. Already an ordinance to authorize issuance and sale of a general-obligation bond issue in the amount of $7,500,000 for the center has been submitted to the City Council.

In a further step towards realizing the center, Harold Shefelmann, civic leader, was named head of an advisory committee on planning for the center.

DALLAS

Oil and Art Mix With Difficulty

For the second time in a year Dallas and modern art have tangled in controversy. Last year it was Harry Bertoia's gilded metal screen which had been commissioned as a part of the design for the city's new library building.

This year a Picasso painting and one of his rugs aroused the ire of the citizens to the point that the librarian decided to remove the objects from public display "to prevent a lot of controversy." The rug and the painting were part of a display by 13 modern artists.

Built-in telephone outlets are a must in today's homes

says ARTHUR K. EHRLICH, Arthur K. Ehrlich & Associates, Burbank, Calif. Builders, *Better Homes & Gardens* Idea Home for 1955 in Glendale, Calif. (pictured below)

"We wouldn't dream of building a home without concealed wiring and telephone outlets in the original plans. It's the kind of detail that sets the well-built home above the average. It just has to be there." Telephone outlets in rooms that are used most add much to the value of Ehrlich homes.

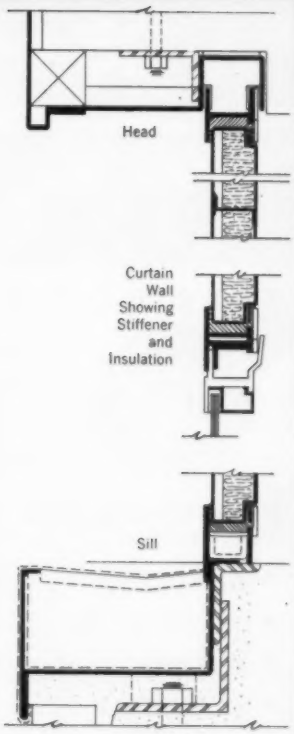
To successful builders like Mr. Ehrlich, who are setting living standards in the Pacific West, complete telephone planning is as basic as adequate electrical wiring. We are always ready to help you plan built-in telephone facilities. Just call us and ask for our *free* Architects and Builders Service.

Specify built-in telephone facilities —a sign of good planning

Pacific Telephone

Puget Sound Power & Light Company Building
Harmon, Prey and Detrich; Architects & Engineers, Seattle
Cawdrey and Vemo; General Contractors, Seattle

The exterior face of the Fentron panel is porcelain enamel over 16-gauge USS Vitrenamel Sheet. Interior is 14-gauge USS Cold Rolled Sheet with insulation sandwiched between. "u" factor is .104. These panels are effective as covers for spandrels and columns, and as mullions complete with windows.



Prefab steel walls hold down building costs

UP, up, up go the costs of new building construction. One bright spot in this picture is the more economical building method using factory-built wall panels of stainless or porcelain enamel steel. These curtain walls are *fast to erect*, provide *more usable floor space*, permit earlier occupancy and sharply *reduce maintenance*. For the architect, this versatile and economical exterior treatment offers floor-to-floor panels that can be designed to harmonize with any architectural expression.

Here in the West, a number of companies have developed their versions of packaged steel walls fabricated from United States Steel Sheets. These curtain wall systems are figuring prominently in recent Western construction . . . from skyscrapers on down to one-story industrial buildings. In Bellevue, Washington, for example, the new Puget Sound Power & Light Company building (above) used curtain wall panels fabricated and erected by Fentron Industries, Inc., Seattle, Washington.

Only Steel can do so many jobs so well

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USS

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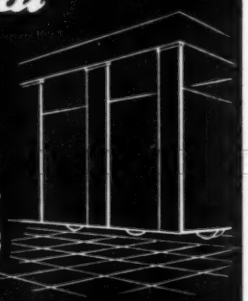
TOILET COMPARTMENTS ARE ALSO MADE IN

The West!



Because Sanymetal now has a complete manufacturing plant located in Los Angeles, Sanymetal's *extra* quality comes to you at no penalty in service, or freight cost. For more information about Sanymetal quality see page 131.

Sanymetal Products Co., Inc.
Factory at 6433A E. Canning St.,
LOS ANGELES 22

WHEN YOUR PLANS INCLUDE THERMOSTATS

SPECIFY BECO GUARDS

Prevent Tampering, Unauthorized Adjustment or Damage to Expensive Thermostatic Controls.

Beco Guards are Designed for all Thermostats

- ATTRACTIVE
- LIGHTWEIGHT
- DURABLE
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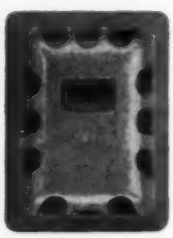

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CALENDAR OF WESTERN EVENTS

- February 25: Closing, "Art in Business Architecture," Denver Art Museum, Civic Center, Denver
- February 27: Building Industry Conference, Memorial Building, University of Colorado, Boulder
- March 9: Honor Awards banquet, Northern California chapters, A.I.A., Garden Court, Sheraton-Palace Hotel, San Francisco
- March 18–21: Pacific Coast Plastics Exhibition, and annual conference, Society of Plastics Industry, Shrine Exposition Hall, Los Angeles
- March 18–29: National Resources Conference, conducted by Industrial College of the Armed Forces, San Antonio, Texas
- March 25–29: Tenth Western Metal Exposition and Congress, Pan American Auditorium, Los Angeles
- March 27: National conference, American Society of Planning Officials, Sheraton-Palace Hotel, San Francisco
- April 16–19: National Art Education Association Conference, Hotel Statler, Los Angeles
- April 18: "Architecturally Speaking," program on Denver's fine art resources, sponsored by Friends of the Library and Adult Education Council, Denver, Colo., Public Library
- July 29–August 2: World Conference on Prestressed Concrete, presented by University of California, Extension Division, in cooperation with Prestressed Concrete Institute, University of California, Berkeley

WESTERN SECTION

INDEX TO ADVERTISING

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Catalogs of the firms listed below are available in the 1956 Sweet's Catalog Files as follows:

a — Architectural File (green)
ic — Industrial Construction File (blue)
lc — Light Construction File (yellow)

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	Burke Engineering Co.	48–22
	Clingan & Fortier, Inc.	48–15
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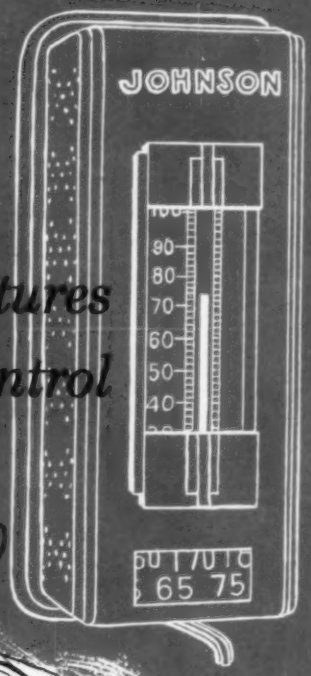
. . . . . .

Western advertising offices: LOS ANGELES, Bob Wettstein, 672 S. Lafayette Park Pl.; PORTLAND, Bob Wettstein, 921 S. W. Washington St.; SAN FRANCISCO, Bob Wettstein, Howard Bldg., 209 Post St.

AT YOUR FINGERTIPS...

The Two Most Desirable Features of Modern Air Conditioning Control



A REPORT ON THE FUNDAMENTAL ADVANTAGES OF THE WORLD'S FINEST CONTROL SYSTEMS FOR OFFICES, FACTORIES, STORES, HOSPITALS, HOTELS, SCHOOLS, PUBLIC AND COMMERCIAL BUILDINGS

1. THE FLEXIBILITY
2. THE SIMPLICITY
of Johnson

The age of air conditioning poses new and challenging problems in the selection of control systems – problems resulting from progressively higher comfort standards, from changing architectural concepts and from the frequent introduction of new and better air conditioning equipment.

Out of this multiplicity of problems has come a twofold demand on the part of architects, engineers, builders and owners:

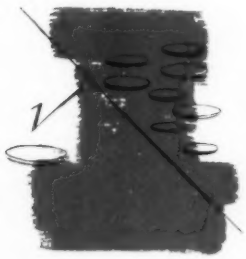
FIRST, for control systems that are so adaptable, so technically perfect, that they are fully capable of solving even the most intricate of these problems.

SECOND, to provide perfection of performance without sacrificing any of the matchless simplicity of pneumatic operation.

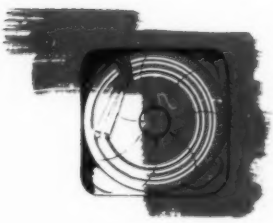
Discover for yourself how pneumatic control – and only pneumatic – successfully combines these two all-important characteristics to an extent that can't be duplicated! No other method of control – only pneumatic – can satisfy modern control requirements so completely and so efficiently, yet so simply and economically! Here are the facts from Johnson, the leader in pneumatic control systems for over 70 years.

Pneumatic Control

PNEUMATIC SIMPLICITY GIVES YOU THESE EXCLUSIVE ADVANTAGES



1 FEWER COMPONENTS. The key to control system simplicity lies in few and simple components. Johnson Pneumatic Control Systems consist of the *fewest possible* number of components. Regardless of how few or how many features you need to provide effective air conditioning control, it's simpler to do it pneumatically. *To produce comparable results by electronic or electric power, or any other method, requires a far greater number of parts and a vastly more complex control system to plan, install, supervise, maintain and service.*

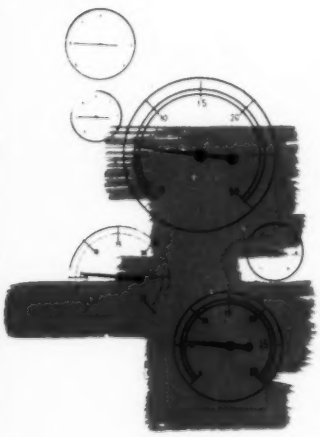


2 GREATER RELIABILITY. Not only are pneumatic components fewer in number but, individually, they are much less vulnerable to failure and damage than other types of components. *The parts of a Johnson Thermostat, for example, will outlast the equivalent parts used in any other type of system.*

With Johnson Pneumatic, there is no intricate array of fragile parts, no cycles of deterioration requiring frequent, regular replacement of delicate components, no gradual loss of control characteristics to upset system balance. Short circuits, electrical overloads, voltage variations and similar problems have no effect whatsoever on Johnson Pneumatic Systems.

Because pneumatic apparatus is basically so accurate, so dependable, so free from extraneous influences, there's no need to be constantly preoccupied with checking component performance and making endless adjustments.

Where real system reliability is essential—to insure uninterrupted comfort or to protect products and processes—Johnson Pneumatic Control meets every requirement.



3 MINIMUM UPKEEP. Both ordinary maintenance and trouble shooting are greatly simplified with Johnson Pneumatic. There are fewer components to check, fewer moving parts subject to wear. Control pressure gauges, located throughout the system, provide an instant, on-the-spot check of performance *without shutting down the heating, ventilating or air conditioning system.* Expensive testing equipment is unnecessary. And only pneumatic gives you the choice to repair or replace components. Thanks to universal familiarity with the principles of pneumatic operation, ordinary service adjustments can be performed at nominal cost by the owner's own staff.

With other forms of control, servicing and trouble shooting are much more difficult and considerably more costly. Owners must be prepared against sudden breakdowns by carrying inventories of spare components. When trouble develops, a number of components must be checked with test equipment, usually with the system shut down. Test apparatus is expensive and difficult to apply. During adjustment, it is difficult to observe how the components are functioning since *there is no permanently installed equivalent to the pneumatic control pressure gauge.*

Few buildings have employees capable of providing such service. Owners are forced to depend on the scattered service facilities of manufacturers. *Only pneumatic gives you unlimited ability to check performance and to do it surely, inexpensively and promptly.*

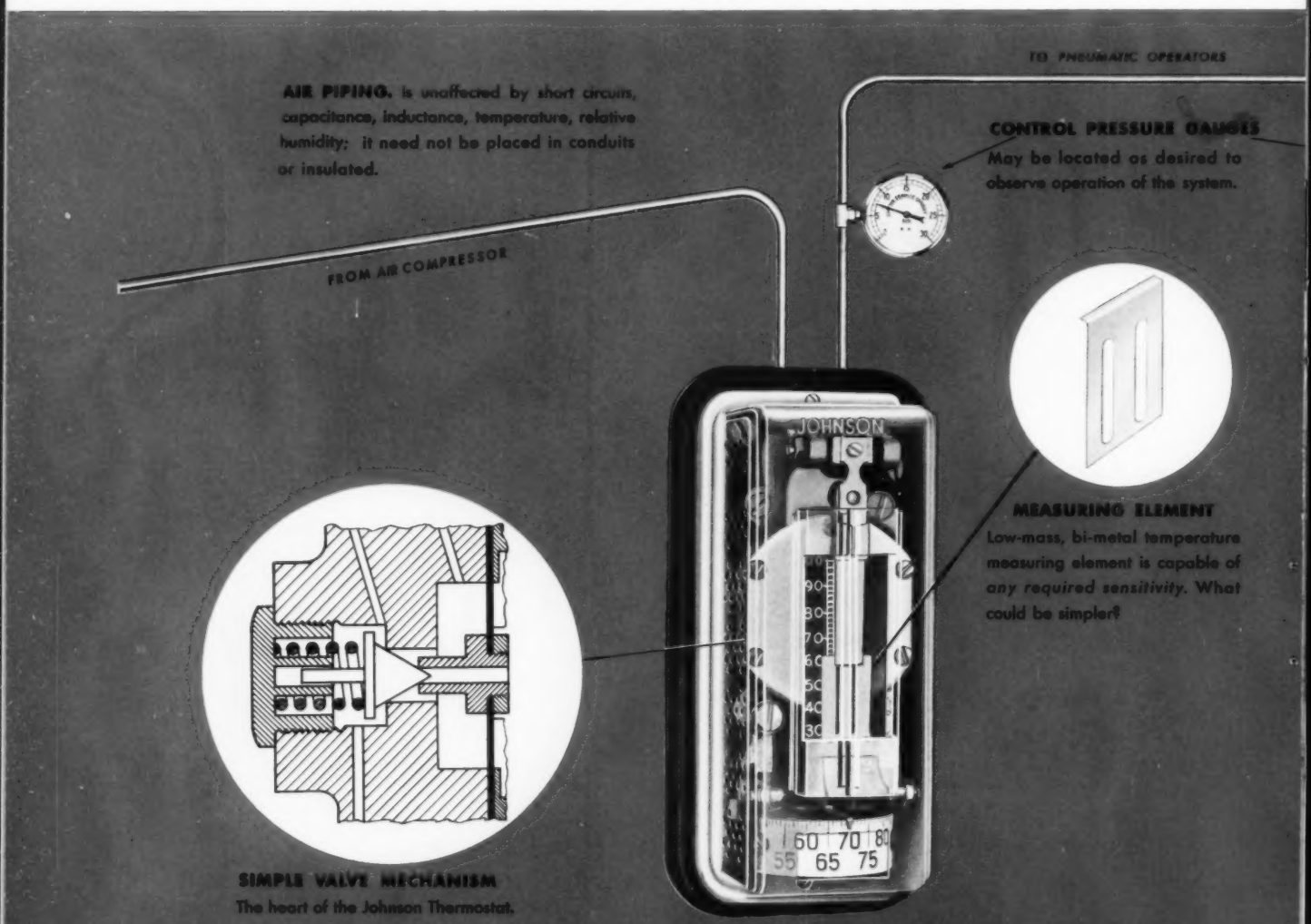
Simplicity, alone, is reason enough to justify the selection of pneumatic control, for it is by far the most practical, most economical of all forms of control. As the following pages show, it's this very simplicity that also makes possible standards of performance that are unsurpassed by anything else you can use, regardless of cost!

ONLY PNEUMATIC GIVES YOU

The basic components of Johnson Pneumatic Control, shown below, reveal how remarkably simple and free from complication the best air conditioning control systems can be.

The Johnson Room Thermostat—the world's most accepted thermostat—is a refined reducing valve in a compressed air line, set and reset automatically by an accurate bi-metal temperature measuring element, to transmit compressed air, at varying pressures, to valves, dampers and other devices.

Johnson Diaphragm Valves and Damper Operators are equally simple devices with flexible, long-life diaphragms which are moved as the thermostat transmits


TO PNEUMATIC OPERATORS
AIR PIPING. Is unaffected by short circuits, capacitance, inductance, temperature, relative humidity; it need not be placed in conduits or insulated.
CONTROL PRESSURE GAUGES
May be located as desired to observe operation of the system.
FROM AIR COMPRESSOR
JOHNSON
MEASURING ELEMENT
Low-mass, bi-metal temperature measuring element is capable of any required sensitivity. What could be simpler?
60 70 80
55 65 75
SIMPLE VALVE MECHANISM
The heart of the Johnson Thermostat.

TYPICAL JOHNSON PNEUMATIC ROOM THERMOSTAT

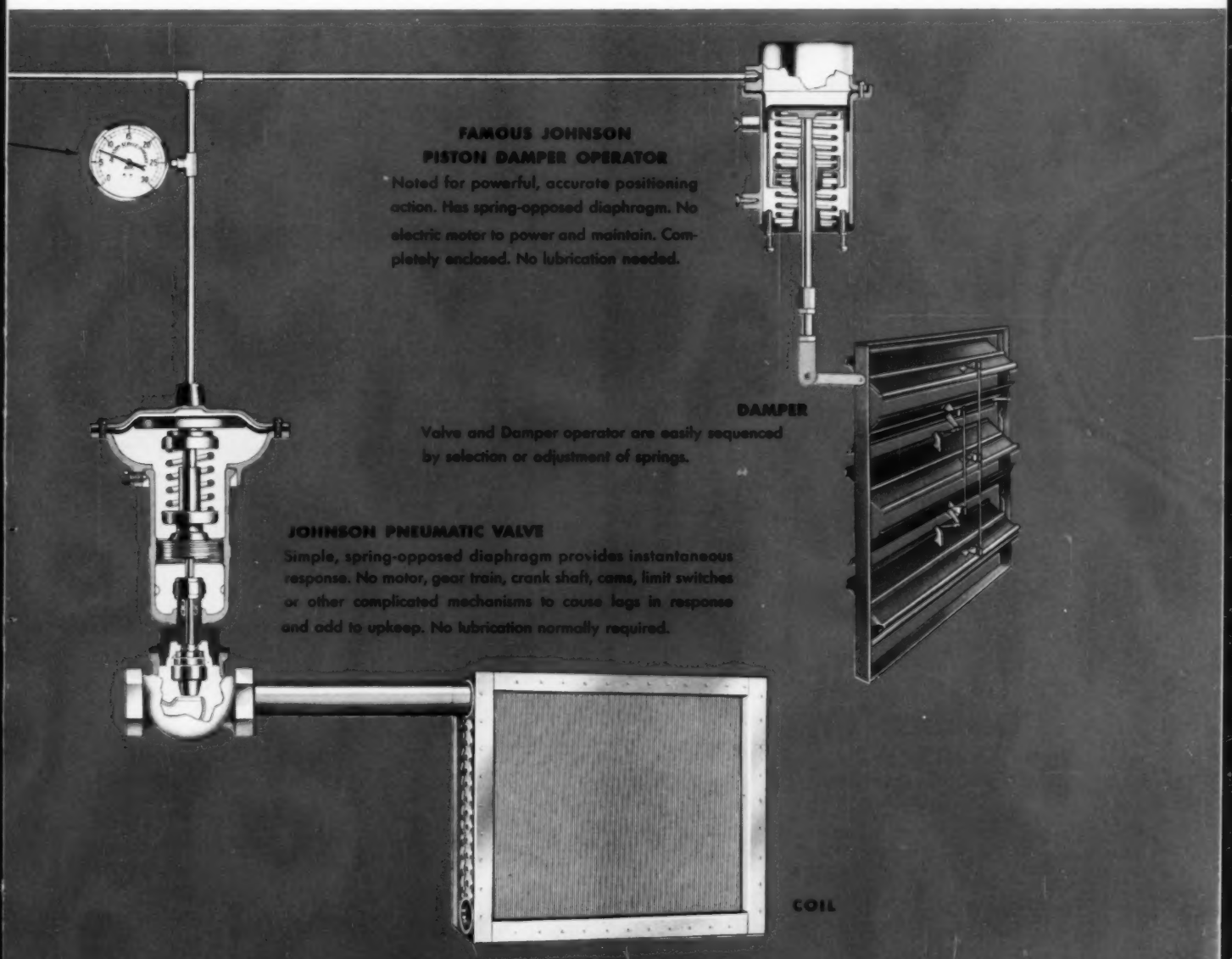
No additional amplifiers, relays or other remotely located auxiliary components are needed. It's all here in one compact unit under the cover. Johnson thermostats for measuring temperatures and pressures in ducts, pipes, etc., and controllers for relative humidity are equally simple.

System-wide SIMPLICITY

changes in air pressure. Johnson offers the most complete line of pneumatic equipment for solving all temperature, humidity and pressure control problems.

The widespread use of pneumatic power by other industries offers further evidence of its simplicity and adaptability. Examples include truck and train brake systems, industrial power tools, hoists, bus suspension systems, lubricating equipment, machine tools and countless others.

Compare *systems* carefully. You'll discover that Johnson pneumatic apparatus is simpler by far and that you can do control work with just a fraction of the components that would otherwise be required.

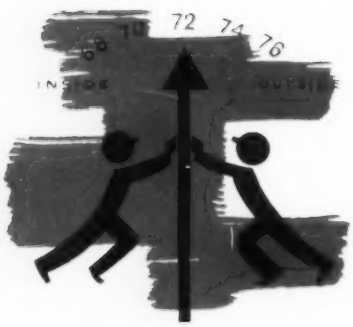

FAMOUS JOHNSON
PISTON DAMPER OPERATOR
Noted for powerful, accurate positioning action. Has spring-opposed diaphragm. No electric motor to power and maintain. Completely enclosed. No lubrication needed.
DAMPER
Valve and Damper operator are easily sequenced by selection or adjustment of springs.
JOHNSON PNEUMATIC VALVE
Simple, spring-opposed diaphragm provides instantaneous response. No motor, gear train, crank shaft, cams, limit switches or other complicated mechanisms to cause lags in response and add to upkeep. No lubrication normally required.
COIL

"...the state or quality of being adaptable; of being responsive to the need..."

...THAT'S *Pneumatic flexibility!*

With Johnson Pneumatic Control you get all the features you need to make any air conditioning system perform up to expectations. No matter how difficult or diversified the problems may be, pneumatic flexibility makes it far easier, simpler and more practical to produce the desired results. For example, today's streamlined pneumatic control lets you count on—

IMPROVED COMPENSATION



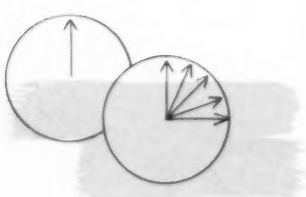
One of the essentials of a really efficient control system is the ability to provide fast, accurate compensation for *any* condition, indoors or out, that affects comfort.

With modern Johnson Pneumatic Controls and their special features, you can easily compensate for changes in occupancy levels (no matter how sudden or extreme), for the heat-producing effects of lights, office equipment or industrial processes, for changes in outdoor temperatures and exposure factors. You can avoid temperature "drift" by varying the ratio of compensation to match the weather—always maintaining the ideal relationship between indoor and outdoor conditions. You can have compensation in as few or as many zones as desired.

You enjoy uniformly comfortable temperatures. High speed pneumatic compensation takes sudden load changes in stride, holds temperatures consistently comfortable.

In judging comparative response rates, bear in mind the fallacy of basing your judgment on the speed of a single control component, when, actually, it's *system response* that determines how fast you get corrective action. Johnson Pneumatic supersensitive controllers, capable of any required sensitivity, team up with other pneumatic components to produce corrective action in a much shorter elapsed time than that needed by any other control system. *For the fastest system response, you have to go pneumatic!*

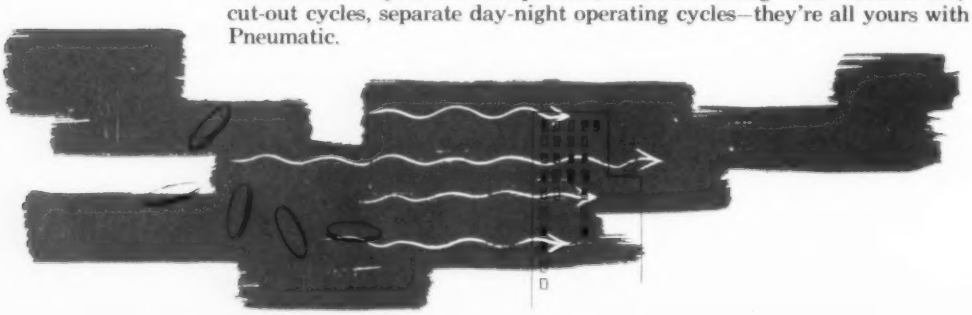
And, thanks to the precise stabilizing action of Johnson Submaster Thermostats, pneumatic compensation provides corrective action without "hunting," without over-compensating.

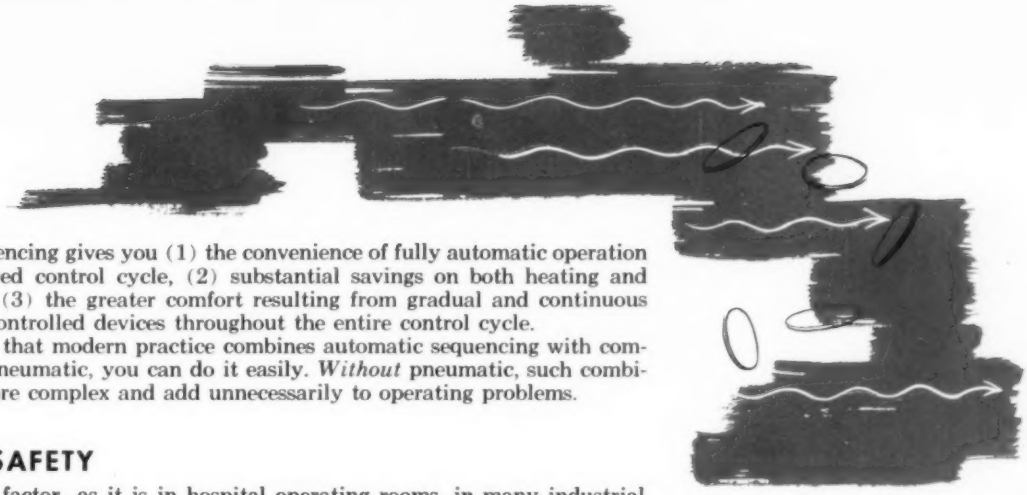


Without pneumatic, it is difficult to set limits when modifying control ranges. You get what amounts to "runaway" compensation. Whether you want them to or not, thermostats go on compensating indefinitely, allowing temperatures to pass practical limits. Only pneumatic gives you *fully controlled compensation*, within definitely established upper and lower limits.

AUTOMATIC SEQUENCING

Precise automatic sequencing adds immeasurably to air conditioning efficiency. Automatic change-over from heating to cooling operation, the Johnson-pioneered "economizer" cycle for inexpensive, natural cooling with outdoor air, weekend cut-out cycles, separate day-night operating cycles—they're all yours with Johnson Pneumatic.





Pneumatic sequencing gives you (1) the convenience of fully automatic operation through any desired control cycle, (2) substantial savings on both heating and cooling costs and (3) the greater comfort resulting from gradual and continuous operation of the controlled devices throughout the entire control cycle.

Remember, too, that modern practice combines automatic sequencing with compensation. *With* pneumatic, you can do it easily. *Without* pneumatic, such combinations are far more complex and add unnecessarily to operating problems.

MAXIMUM SAFETY

Where safety is a factor—as it is in hospital operating rooms, in many industrial plants and research laboratories—it properly takes precedence over any other consideration. The answer, obviously, is to go pneumatic, for only pneumatic insures complete protection under hazardous conditions.

Pneumatic control is explosion-proof. You can locate Johnson Thermostats, Humidostats and other apparatus anywhere in complete safety, even in the presence of explosive gases, solvents, dusts and other hazardous materials. Here, again, pneumatic flexibility pays off—there's no need to compromise safety, no need to settle for less effective, substitute control arrangements, no need to install special protective devices. Flow of instrument air is always outward, preventing room contaminants from damaging working parts of the instrument.

SIMPLIFIED OPERATION

Only pneumatic control gives you unlimited freedom to observe and direct system operation. Whichever way is most convenient, most effective, you can do it pneumatically.

Johnson Control Centers give you the advantage of central control panels which, from a single remote point, allow you to observe and record air and water temperatures throughout the system, reset thermostats, make day-night and heating-cooling change-overs, vary outdoor air for ventilation and cooling. In short, you can do everything from one convenient location.

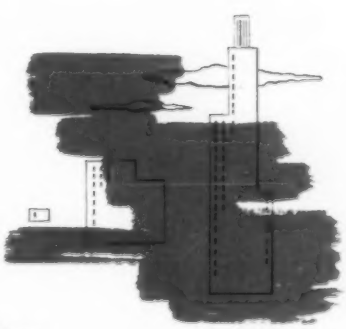
Sometimes, though, it's more practical to use *de*centralized control, grouping controls on zone panels. Or you may want a separate control panel for each central unit, mounted right at the unit. Pneumatic flexibility lets you do it either way.

The system-wide display of performance data, by means of unlimited numbers of inexpensive control pressure gauges, adds tremendously to operating convenience and efficiency. Even the most comprehensive central control panels can't substitute for the time and effort saved by having this vital information available at the actual point of control. It's one of pneumatic's most important advantages and it's exclusive with pneumatic!

Thermostat operation is likewise flexible. You can change settings at the thermostat itself or provide for remote adjustments from a central control panel. Locked and concealed adjustment model thermostats are effectively used to prevent tampering. Keep in mind, too, that pneumatic simplicity eliminates personnel headaches. Experienced personnel, already familiar with pneumatic devices, are generally available. Almost anyone with mechanical aptitude or experience can quickly become competent to operate today's simplified pneumatic systems. The inherent complexities of other methods of control and the difficulty of making proper observations of performance only add needlessly to the owner's problems and costs.

WIDEST ADAPTABILITY

In contrast to the limited applications of other controls, only pneumatic control is capable of providing optimum results with all types of air conditioning systems. This applies to central fan systems, radiant heating and cooling panels, reverse cycle systems, unit air conditioners, double or single duct systems. Pneumatic alone possesses sufficient flexibility to take any job in stride.



only pneumatic is so completely flexible—

yet so simple, so economical

JOHNSON "SERVICE"

A 72-year success story

complete responsibility centered in one organization

PLANNING

MANUFACTURING

INSTALLING

SERVICING

The Johnson Service Company maintains the *only* nationwide organization devoted exclusively to planning, manufacturing, installing and servicing automatic temperature and air conditioning control systems. This undivided responsibility for, and continuing interest in, all phases of the control job is your assurance of satisfaction with every Johnson Pneumatic Control System.

To serve you promptly and efficiently, there are 105 direct branch offices in the United States and Canada, each with a complete staff consisting of branch manager, sales engineers, technicians, superintendent of installations, clerks and mechanics. In addition, Johnson maintains the finest service organization in the control industry, with full-time factory-trained mechanics stationed in some 200 cities.

JOHNSON CONTROL

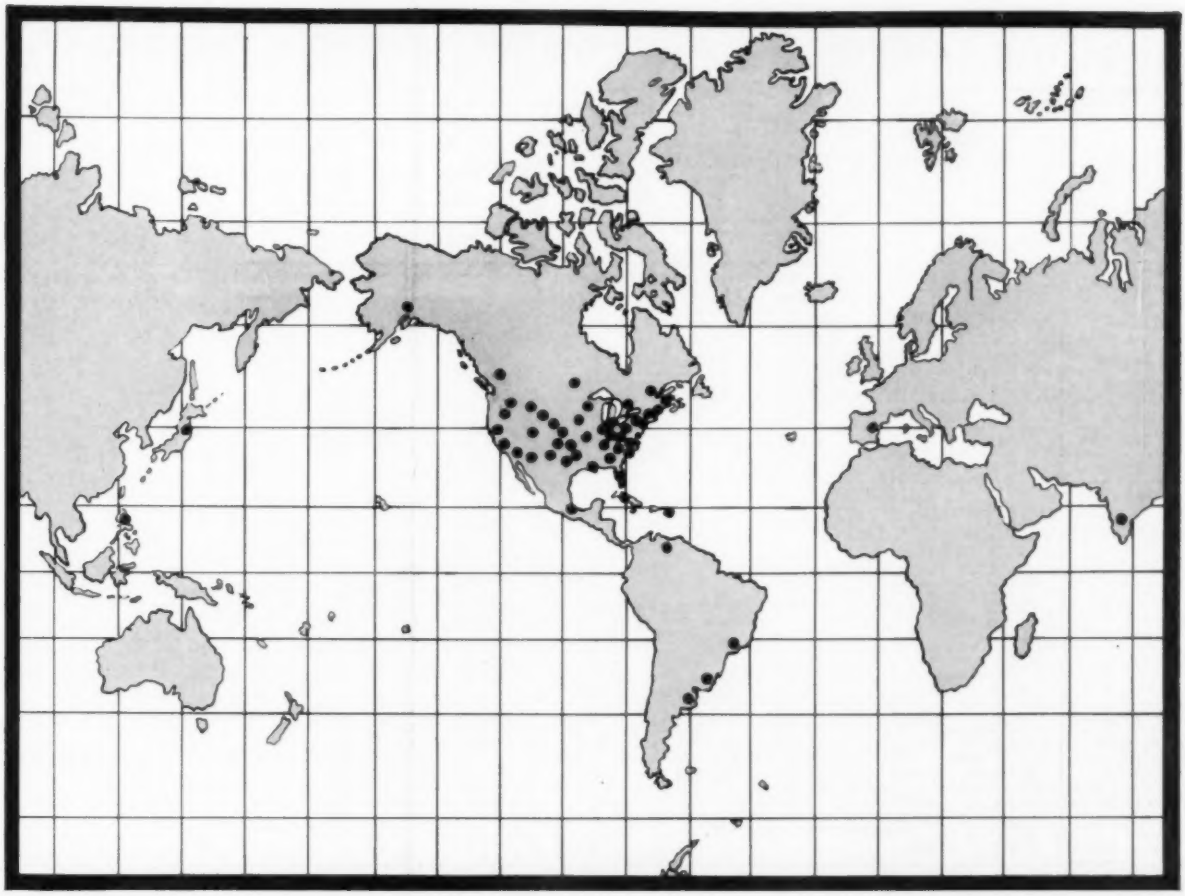
SINCE 1885

JOHNSON SERVICE COMPANY
Milwaukee 1, Wisconsin

Export Division, New York 16, N. Y.

JOHNSON TEMPERATURE REGULATING COMPANY OF CANADA, LTD.
Toronto 16, Ontario

Printed in U. S. A.



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Service for Prefabricated Piping Systems

Over 75 field offices, both national and international are at your disposal on any project dealing with prefabricated piping systems. These field representatives offer on the spot assistance in planning, delivering and installing underground or overhead piping. A Ric-wiL representative will be glad to discuss plans involving steam, hot water or oil distribution lines . . . and he represents the world's largest supplier of prefabricated piping systems.

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. . . of Exceptionally High Thermal Efficiency

SINCE 1910

RIC-WIL INCORPORATED — PREFABRICATED INSULATED PIPING SYSTEMS

BARBERTON, OHIO

IN CANADA: THE RIC-WIL COMPANY OF CANADA LIMITED

THE RECORD REPORTS: CONSTRUCTION COST INDEXES

Labor and Materials — **U. S. average 1926–1929 = 100**

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.4	240.0
1950	256.2	254.5	249.5	251.5	248.0
1951	273.2	271.3	263.7	265.2	262.2
1952	278.2	274.8	271.9	274.9	271.8
1953	281.3	277.2	281.0	286.0	282.0
1954	285.0	278.2	293.0	300.6	295.4
1955	293.1	286.0	300.0	308.3	302.4
Sept. 1956	313.2	304.1	324.0	334.3	329.2
Oct. 1956	313.0	303.8	324.1	334.7	329.2
Nov. 1956	313.2	304.0	324.4	334.9	329.4
	% increase over 1939				
Nov. 1956	153.6	148.4	148.2	151.0	153.2

ATLANTA

Period	Residential		Apts., Hotels Office Bldgs.	Commercial and Factory Bldgs.	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
1950	194.3	196.2	185.4	183.7	185.0
1951	212.8	214.6	204.2	202.8	205.0
1952	218.8	221.0	212.8	210.1	214.3
1953	223.3	224.6	221.3	221.8	223.0
1954	219.6	219.1	223.5	225.2	225.4
1955	225.3	225.1	229.0	231.5	231.8
Sept. 1956	239.7	238.0	245.8	248.2	252.9
Oct. 1956	239.7	238.0	245.8	248.2	252.9
Nov. 1956	239.8	238.1	245.5	248.1	250.8
	% increase over 1939				
Nov. 1956	177.9	186.5	158.1	154.7	164.8

ST. LOUIS

1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
1950	232.8	230.7	221.9	225.3	222.8
1951	252.0	248.3	238.5	240.9	239.0
1952	259.1	253.2	249.7	255.0	249.6
1953	263.4	256.4	259.0	267.6	259.2
1954	266.6	260.2	263.7	273.3	266.2
1955	273.3	266.5	272.2	281.3	276.5
Sept. 1956	289.1	280.5	289.2	300.4	296.3
Oct. 1956	289.1	280.5	289.2	300.4	296.3
Nov. 1956	289.3	280.7	289.5	300.6	296.5
	% increase over 1939				
Nov. 1956	162.5	162.3	143.9	150.9	149.2

SAN FRANCISCO

1930	90.8	86.8	100.4	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
1951	245.2	240.4	239.6	243.1	243.1
1952	250.2	245.0	245.6	248.7	249.6
1953	255.2	257.2	256.6	261.0	259.7
1954	257.4	249.2	264.1	272.5	267.2
1955	268.0	259.6	275.0	284.4	279.6
Sept. 1956	280.8	271.6	293.1	302.3	300.8
Oct. 1956	281.0	271.8	293.4	302.5	301.0
Nov. 1956	282.6	272.8	295.8	306.8	302.9
	% increase over 1939				
Nov. 1956	167.6	174.7	152.0	151.7	160.0

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

BORDEN ALUMINUM GRATING IN NEW MELLON SQUARE PARK . . .

PITTSBURGH, PENNSYLVANIA

Encircled in the picture above is one of several aluminum grating air vents in use throughout the park as air exhausts for the multiple-level parking area below ground.

The arrows indicate two of the locations of a system of drain trenches in existence throughout the park.

The grating installed is Borden Pressure Locked Aluminum Grating. This was an exacting job, one where only standards of quality equal to Borden's would do. Functional beauty and low maintenance are but two of the many advantages of Borden's Pressure Locked Aluminum Grating.

BORDEN METAL PRODUCTS CO.

Gentlemen:
Please send me BORDEN Catalog

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TITLE.....

COMPANY NAME.....

ST. AND NO.....

CITY AND STATE.....

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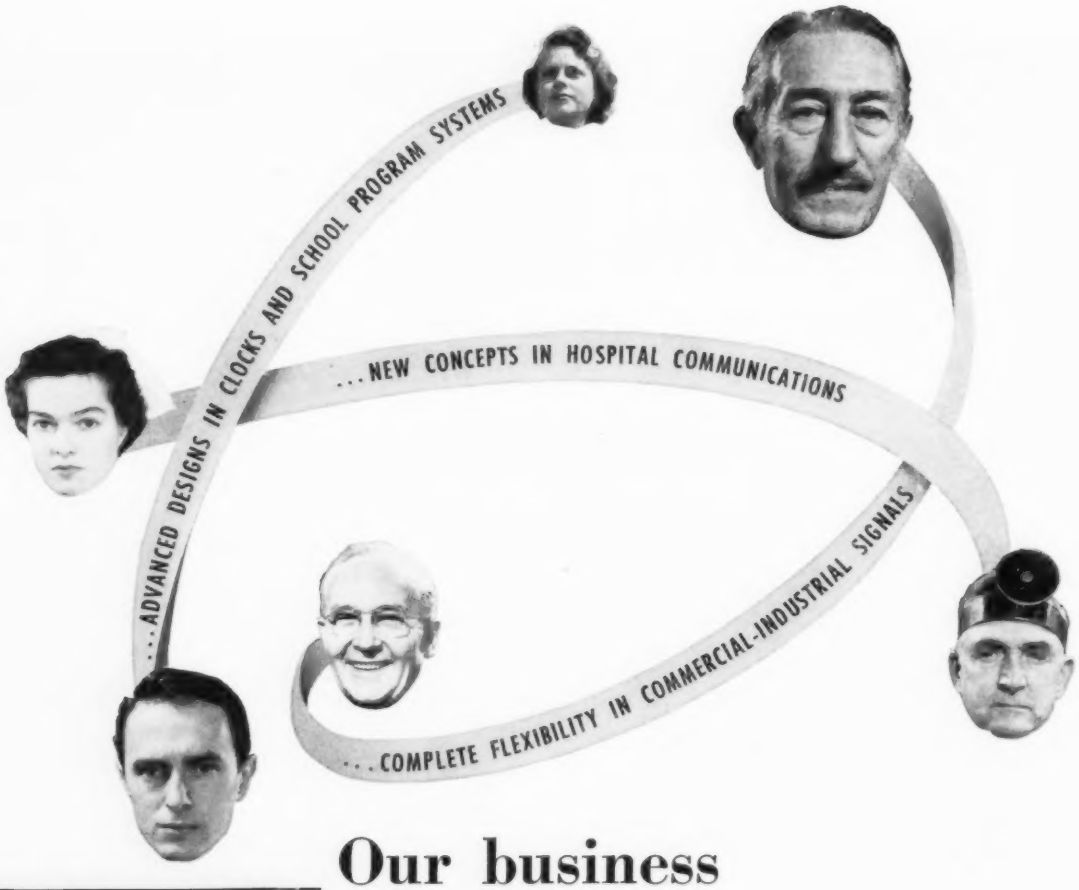
All/Weld, Pressure Locked, and Riveted Floor
Gratings in this FREE 8-page catalog

BORDEN METAL PRODUCTS CO.

822 GREEN LANE Elizabeth 2-6410 ELIZABETH, N. J.
SOUTHERN PLANT—LEEDS, ALA.—MAIN PLANT—UNION, N. J.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...NEW CONCEPTS IN HOSPITAL COMMUNICATIONS
...COMPLETE FLEXIBILITY IN COMMERCIAL-INDUSTRIAL SIGNALS

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Your clients will appreciate the many advantages of Sperti Faraday precision engineered signal systems. From a simple buzzer to Visicall, the electronic marvel that lets you *see* and *talk*, you can always depend on Sperti Faraday, pioneers in the industry, for the latest developments in visual and audible communication systems.

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Betty Furness invites you to "Time" Westinghouse Elevator Operation

One "Do-it-Yourself" Stop Watch Test Is Worth Ten Thousand Words.

You can't describe superior elevator performance, you've got to *experience* it. That's why we're rolling out the red carpet to you who are planning new heavy traffic buildings—or thinking about modernizing old ones. A simple stop watch test verifies these new standards set by Westinghouse for more economical and more efficient elevatoring:

. . . Better floor-to-floor time-saving

. . . Elimination of all unnecessary door open time

. . . Maximum speed with smoothness and comfort

Yes, we invite you to test all operational phases of Westinghouse automated (operatorless) elevator systems. Call our nearest office today to arrange for a stop watch demonstration and also learn how you save up to $7000 per car per *year* with operatorless elevators—and learn more about the remarkable components which allow elevators to think for themselves:

1. Selectomatic for master supervisory control
2. Synchro-Glide for accurate, smooth, soft landings
3. Traffic Sentinel® for safe, courteous, yet time-saving passenger handling
4. Automatic Traffic Pattern for Traffic Controlled Elevatoring
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AUTOMATED **Westinghouse Elevators**
AND ELECTRIC STAIRWAYS

YOU CAN BE SURE... IF IT'S Westinghouse

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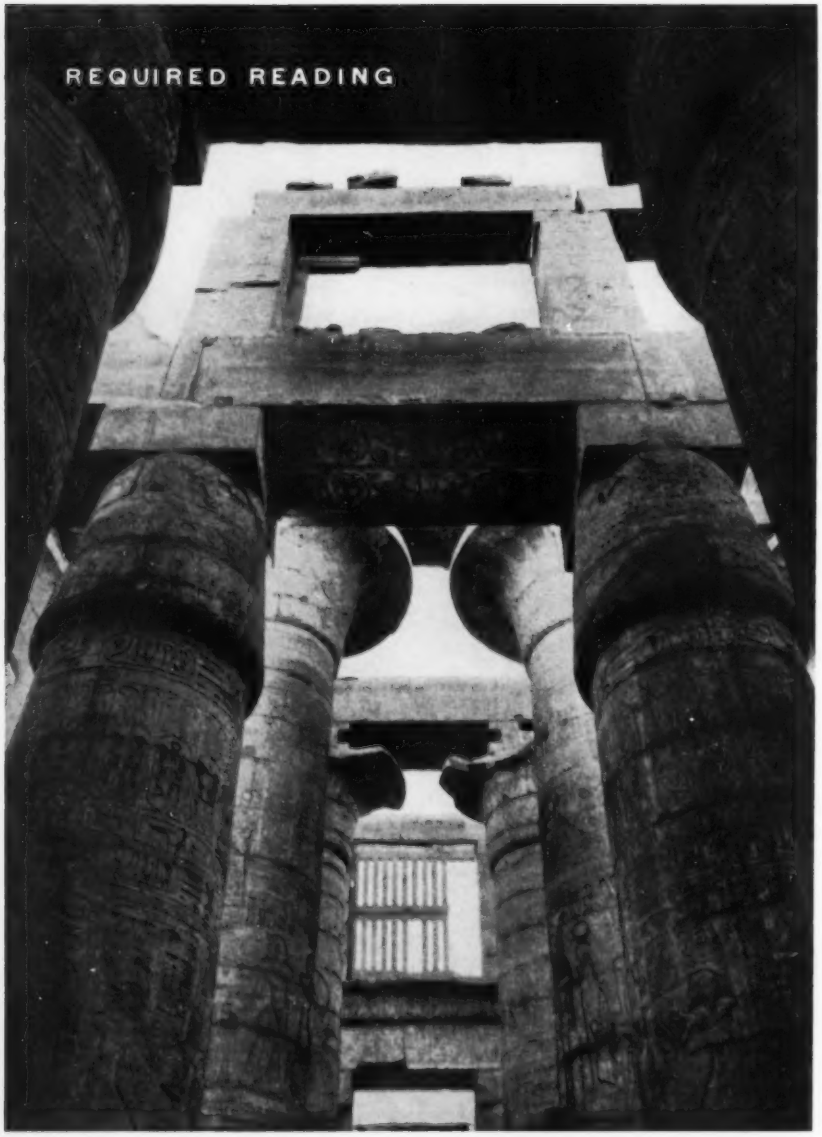


Karnak, Temple of Amon. The great hall of pillars of Kings Sethos I and Rameses II, seen from below

EGYPT: 3000 YEARS OF ART AND ARCHITECTURE

Egypt: Architecture, Sculpture, Painting. By Kurt Lange and Max Hirmer. Phaidon (London) 1956. Distributed by Garden City Books, N. Y. 362 pp. Illus.

FOR NEARLY 3000 YEARS the heartbeat of human development pulsed through ancient Egypt. Modern man, in quest of the same spiritual and esthetic satisfactions the Egyptians were seeking, turns with awe and delight to the artistic products of this ancient civilization. At once the reflection of an unfamiliar and rather exotic way of life peculiar to that nation, the art and architecture of Egypt also expresses universal aspirations to which man of all ages continues to respond. However, the response is not always affirmative. Attitudes toward ancient Egypt seem to waver between under- and over-valuation. One man may believe the Nile civilization, as evidenced by its art and architecture, achieved the ultimate in human aims. Another may think the Egyptians held a persistent complacency toward the progress of thought, never freeing themselves from archaic attitudes toward religion and despotism. A sober analysis of Egypt's artistic accomplishments with relation to

(Continued on page 66)

Sill-line goes to CHURCH...

Not all kinds of heating equipment look well in church.

So when Charles W. Pollitt of Philadelphia designed

the St. Paul Reformed Episcopal Church in Oreland, Pa.,

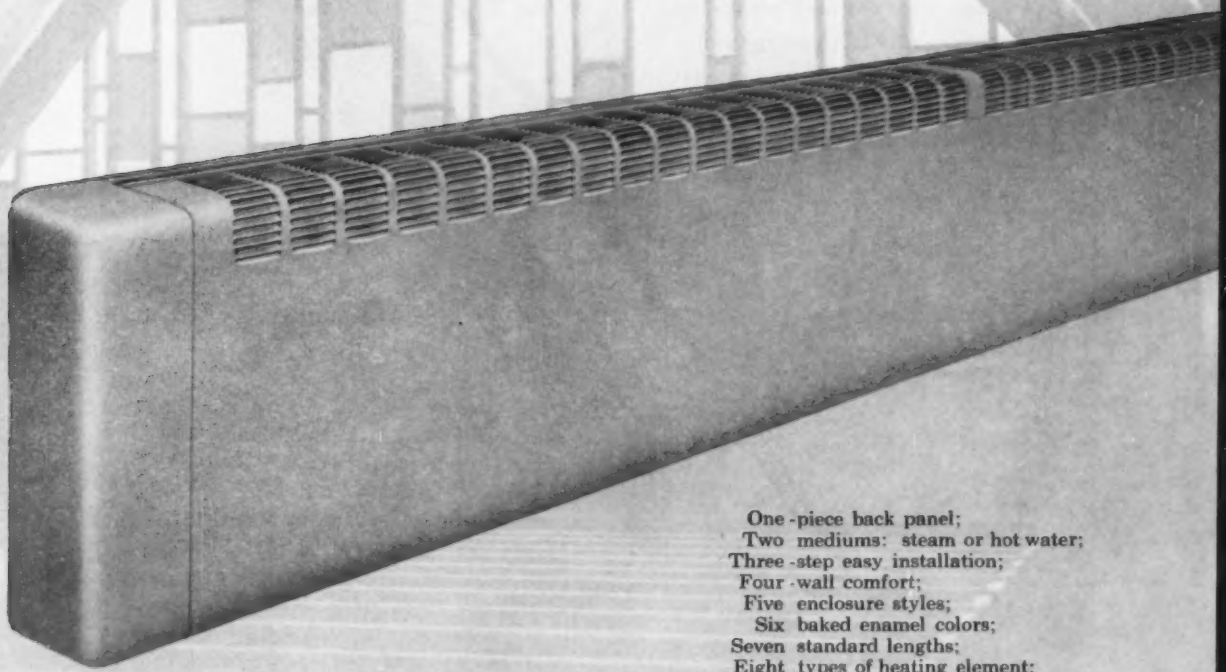
he chose Nesbitt Sill-line to grace its modern interior.

Sill-line offered the perimeter protection needed

and its long trim lines conformed to the contemporary design.

You could do some nice things, too, with this

"world's most beautiful perimeter radiation."



One-piece back panel;
Two mediums: steam or hot water;
Three-step easy installation;
Four-wall comfort;
Five enclosure styles;
Six baked enamel colors;
Seven standard lengths;
Eight types of heating element;
Nine matching accessories;
Ten-strike for value!

Nesbitt

SILL-LINE RADIATION

Made and Sold by John J. Nesbitt, Inc.
Philadelphia 36, Pa. Publication 30-1

NOW WOOD GETS A "VACCINE", TOO!

new Robbins DRI-VAC plant vacuum-impregnates wood to protect against moisture, termites and fungi

WOOD LASTS LONGER when it's "vaccinated" — when the preservative penetrates deeply into the wood cells instead of merely serving as a surface coating. When the wood you specify is DRI-VAC treated with Woodlife — the original water repellent preservative containing PENTAchlorophenol — you can be sure its vacuum-penetration and high retention will give maximum protection against moisture absorption, termites and fungi.

HOW IT WORKS: New automatic DRI-VAC plant, the only one of its kind east of the Mississippi, assures uniform treatment. In the DRI-VAC system, the wood is placed under controlled vacuum thus removing air from cells, and is then immersed in Woodlife solution. Breaking of the vacuum draws solution into the cells. Wood is then removed from solution and again placed under high vacuum, thereby withdrawing surplus solution. As the vacuum is broken the remaining solution is drawn deep into the wood, coating the cell walls for permanent protection, a result impossible to achieve by brush or dip application.

WHEN YOU SPECIFY hardwood flooring, you can be sure of maximum protection by insisting on Robbin's DRI-VAC treated flooring. **ANY WOOD IN ANY SHAPE** up to 16-feet long, including dimension, decking, framing, siding, doors, frames, trim and flooring can be DRI-VAC treated with Woodlife. Robbins' Ishpeming, Michigan, plant is situated on three railroads and offers lumber suppliers economical treating service "in transit" without appreciably increasing shipping costs.

For full details write Dept. AR-257 Reed City, Michigan

ROBBINS FLOORING COMPANY

World's Largest Manufacturer of Maple Flooring — REED CITY AND ISHPEMING, MICHIGAN

DRI-VAC TREATED *with* WOODLIFE
PERMIT NO. 15
ROBBINS FLOORING CO.

Look for this stamp. It is your guarantee that wood has been properly DRI-VAC treated.

Daylight Research House, Ann Arbor, Michigan. Architect: Harris Armstrong, A. I. A., Kirkwood, Missouri. Decorator: Marian Quinlan, Chicago, Illinois

Pella®

SEE HOW THESE NATURAL WOOD PELLA FOLDING DOORS harmonize with the walls, floor, ceiling, and furnishings of this room. And PELLA DOORS contribute to over-all excellence of room design, too—you can close for privacy, open to create attractive spaciousness. Handsome veneers of birch, pine, oak and Philippine Mahogany are available. Easy-to-install, doors are factory assembled, and come complete with all hardware.

WOOD FOLDING DOORS

ROLSCREEN COMPANY
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Please send literature featuring PELLA WOOD FOLDING DOORS.

FIRM NAME

ADDRESS

CITY ZONE STATE

ATTENTION MR. TEL. NO.

Keeping industry bright with ABolite

6-MONTH TEST RESULTS

The photographs show two reflectors after 6 months of side-by-side use in the core department of the James B. Clow and Sons plant, Coshocton, Ohio. Note the heavy deposit of dirt and grime on the non-vented unit, drastically reducing its illuminating value. The Abolite slotted-neck reflector shows minimum dirt deposit; lighting efficiency remains high.

Self-cleaning Abolite fixture gives 30% more light, longer lamp life

The slotted-neck reflector design, by Abolite, greatly increases lighting efficiency and lamp life, cuts maintenance costs way down. Air circulation through the ventilator slots keeps dust and grime on the move. Lamp and reflector stay clean nearly twice as long, give 30% more illumination. Lamp operating temperature is reduced 40%. Make sure you get all these advantages—at no extra cost—by specifying Abolite. For full details on Abolite's complete line of lighting fixtures, write *ABolite Lighting Division, The Jones Metal Products Co., West Lafayette, Ohio.*

ABOLITE LIGHTING

REQUIRED READING

(Continued from page 62)

religious political, and economic influences is presented by Kurt Lange and Dr. Max Hirmer in their co-authored book, *Egypt: Architecture, Sculpture, Painting.*

In a 40-page introductory text, the authors draw an historical outline of the Egyptian civilization, discussing the way of life, the religious beliefs, and the organization of the State. Ancient works of art are placed in proper perspective to these variable influences. Thus new vistas of understanding are made available to both the student and the layman interested in Egyptian art.

As the introduction to this book espouses, everything Egyptian, wherever it may be, has its own atmosphere around it, and the only way to uncover the reality of the image with which these men mastered the incomprehensible and the feasible is to adapt oneself to their sphere, to *feel* like an Egyptian. This comes from understanding their way of life. Extracting Egyptian art from its proper and natural orbit and dissecting it for purposes of analysis is like testing a fish out of water to see how it swims. That does not mean Egyptian art and architecture is void of universal expression, but rather that we must become familiar with the *mode* of expression before we can fully appreciate the universal implications. This new volume by Lange and Hirmer helps us do that.

Those who criticize ancient Egyptian religious beliefs — upon which much of its art and architecture was founded — as stagnant, despotic, and full of materialistic fantasies, will do well to note from the introductory pages that more than a thousand years before similar ideas became prevalent in neighbouring countries, Egypt harbored a religious conviction that our fate in the world to come depends on our moral behaviour in this life, which we shall have to justify before the throne of God.

Following the introductory text is a 244-page section of illustrations, exquisite in content, composition, and reproduction. The aim of the illustrations, as Dr. Hirmer mentions in the Foreword, is to give an idea of the landscape in which the buildings were erected over a period of 3000 years, and an idea of the buildings themselves and their component parts. The reader, he contends, can then deduce the details from the living whole, rather than to guess from details what the whole may

(Continued on page 380)

B. Krauss, Architect

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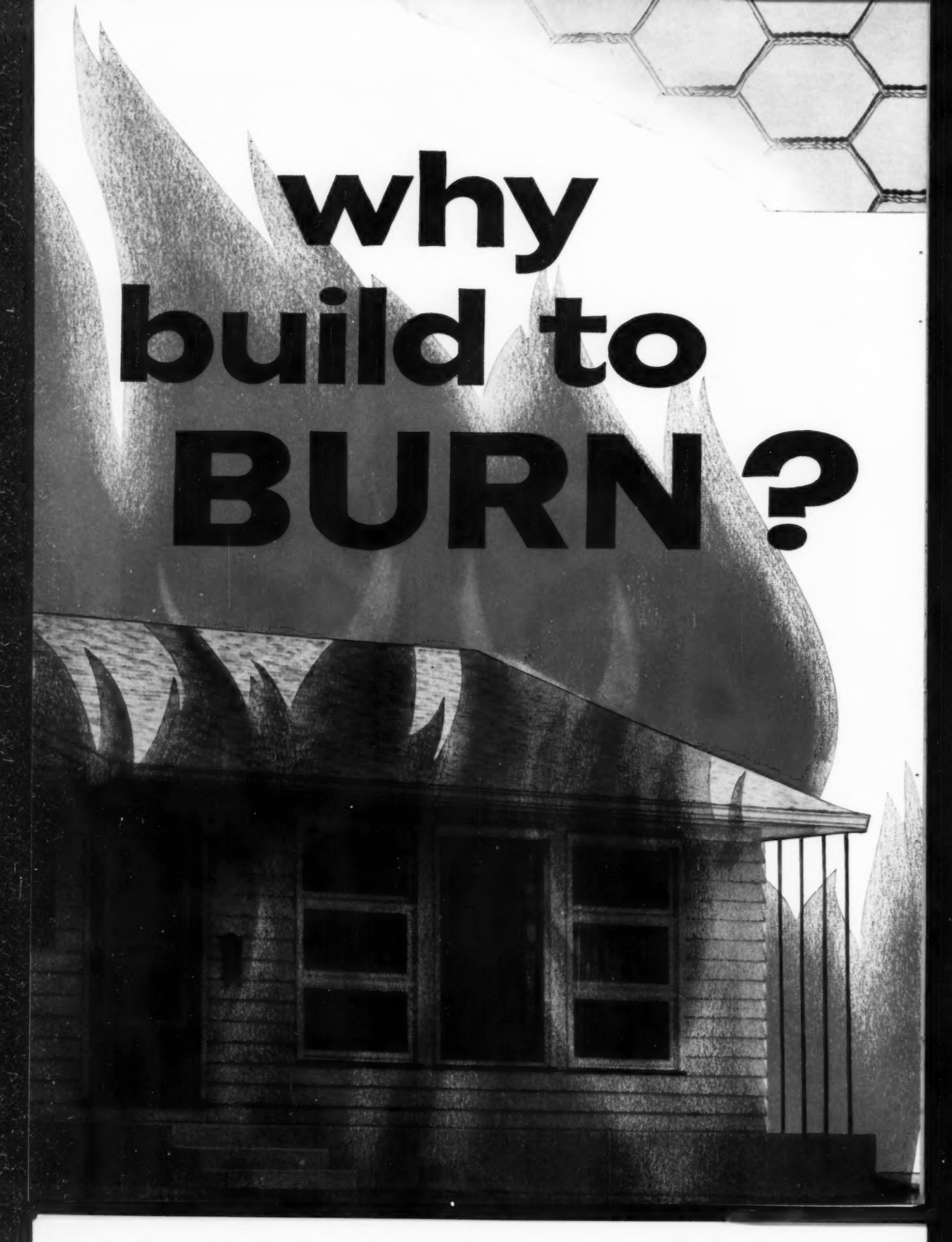
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build to
BURN?

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Fire safety costs so little.

Actually, walls and ceilings of gypsum lath and plaster, reinforced with Keymesh, cost less than most substitutes. Just see how they *multiply* fire safety.

Take open-web steel joist floors and concrete slabs with gypsum ceilings, for example. With ½ inch of lightweight aggregate plaster, reinforced with Keymesh-like lath, a fire endurance limit of 3 hours and 28 minutes was obtained.*

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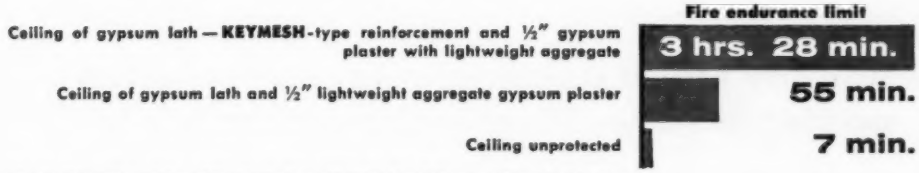
You'll find equally important protection when simple columns and beams of buildings are protected in this same way. It's so good that insurance companies cut their rates because of the greater fire safety. Actually, these lower rates quickly pay the cost of the lath and plaster.

Think of it. Greater fire safety. Acoustical properties, if you wish. Durability. Low maintenance. Beauty. Takes any decoration. Yet . . . this fire safe construction costs less than most substitutes. And it can slash insurance rates enough to quickly pay for the plastering.

*Actual Fire Test Shows Amazing Value of Keymesh-Type Plaster Reinforcement**


Fire endurance limit
Ceiling of gypsum lath — KEYMESH-type reinforcement and ½" gypsum plaster with lightweight aggregate
3 hrs. 28 min.
Ceiling of gypsum lath and ½" lightweight aggregate gypsum plaster
55 min.
Ceiling unprotected
7 min.

**See Building Materials and Structures Report 141, National Bureau of Standards: "Fire Endurance of Open-Web Steel-Joist Floors with Concrete Slabs and Gypsum Ceilings"*

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New Socony Mobil Building cuts maintenance costs with over 7½ miles of carpet...

More and more specifications are including carpet – not only for its functional advantages of greater comfort, safety and warmth – but for the tremendous saving in maintenance costs.

Office buildings – such as the new Socony Mobil Building which contains over seven and one-half miles of carpet – find that for every 1000 square feet of floor space in heavy traffic areas, carpet saves an average of $194 a year, or 50.7% on maintenance costs.

The average cost, per 1000 square feet, of maintaining carpeted floors at accepted standards of maintenance averages $189 a year in heavy traffic areas. For non-carpeted floors, this figure shoots up to $383 – an increase of $194 a year for each 1000 square feet.

This tremendous difference exists simply because carpet is so much easier to clean. Fewer man-hours, less equipment are needed because carpet's "brushing" action confines soil to a small area, and soil stays high in the pile where routine vacuuming can easily remove it. One operator – one operation.

And since there's no gloss to wear off to reduce the appearance level, carpet looks better between cleanings. In addition, carpet compares very well for durability.

Figure the floor space on the job you're now doing to see how much carpet can save your client. On top of this tremendous economy, carpet acts as a blotter to absorb noise and provides safe, sure, slip-proof footing. In general office areas, corridors, reception rooms and other heavy traffic areas, carpet will prove the most economical, most dignified, most practical choice for your clients.

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Mr. Gerholz (left) at the site of his Westgate Park community in Flint, Michigan. With him is Edward Rozsypal of Michigan Bell Telephone Company.

"Concealed telephone wiring is a 'must' for modern homes"

—says Mr. Robert P. Gerholz of Gerholz Community Homes, Inc., Flint, Michigan

"We're building 800 homes in our Westgate Park community," says Mr. Gerholz, "and in each of them we're providing several telephone outlets.

"In my opinion, concealed telephone wiring is a sign of a well-integrated, preplanned home. Home buyers are learning to ask for it, progressive builders are providing it. I think it will soon be difficult for any builder to sell a home that doesn't have concealed telephone wiring. It's a 'must' for modern homes."

Mr. Gerholz is the only man ever to have been President of both NAHB (1944) and NAREB (1950). In his 35 years as a builder he has built over 4200 homes. His Westgate Park community of homes in Flint, Michigan, has twice received the NAHB's Award of Merit, in 1954 and again in 1955. Like many other trend-minded builders across the nation, Mr. Gerholz knows the value of concealed telephone wiring as a modern sales feature.

• • •

Your nearest Bell Telephone business office will help you with concealed wiring plans. For details on home telephone wiring, see Sweet's Light Construction File, 8i/Be. For commercial installations, Sweet's Architectural File, 32a/Be.

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And that satisfaction is seldom deeper or more personal than when they find themselves before the bank's new Mosler Century Vault Door. You can understand why.

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Then there is the assurance that superb engineering is inherent in this as in all Mosler products . . . that matchless performance over the years may be taken for granted.

But perhaps they both find the deepest satisfaction in the knowledge that their personal judgment is so widely confirmed by leaders in banking, business and government – who have held the name *Mosler* in highest regard for over 100 years.

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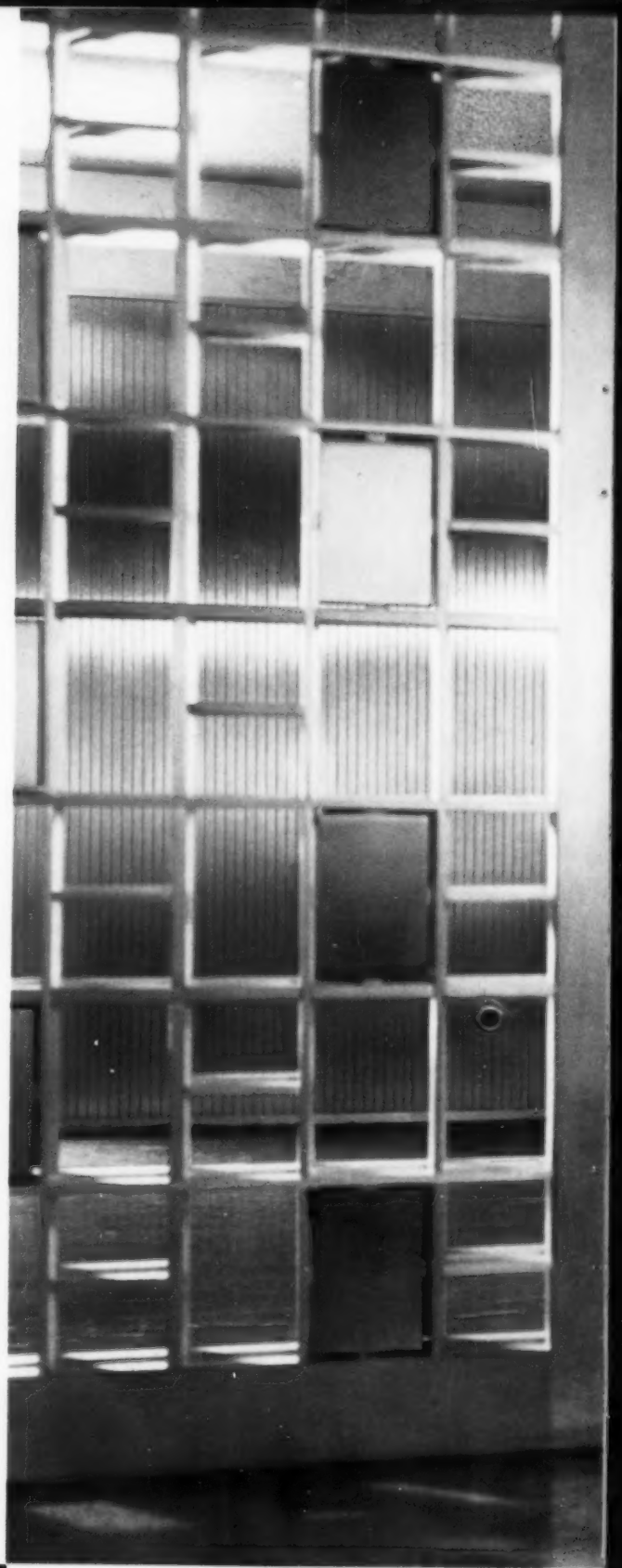

The Mosler Century Bank Vault Door, Texas National Bank, Houston, Texas

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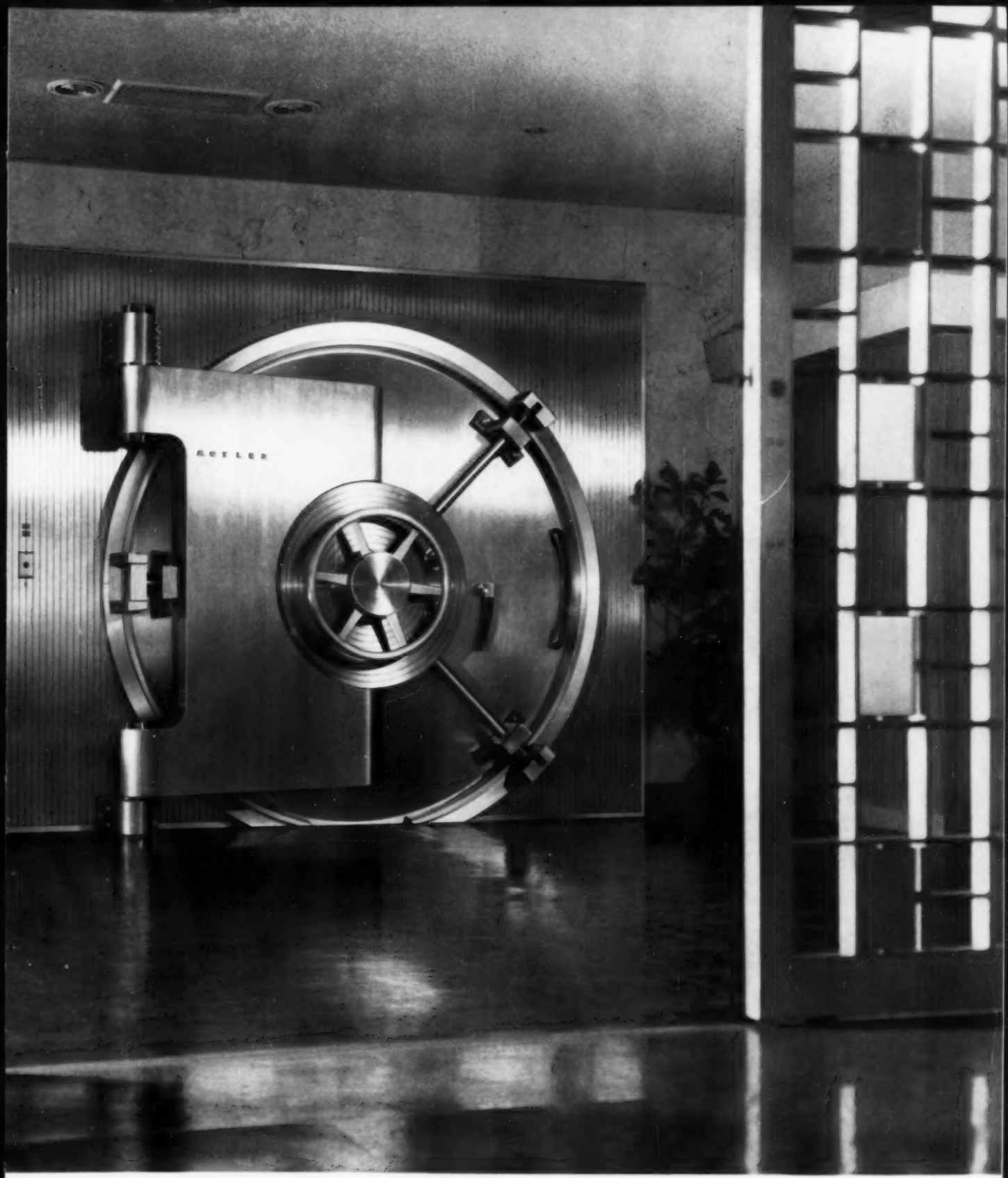

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Student Union & Food Service Building of the Indiana University Medical Center, Indianapolis.

Indiana University Installs 103 General Electric Thinline Air Conditioners

The problem: to air condition an existing building without hurting its appearance. And without costly ductwork or plumbing. *The answer:* the General Electric *Thinline*.

The *Thinline* is only 16½ inches thin, so it fits flush with the outside of this Indiana University building. For all its compactness, the *Thinline* carries a high BTU rating, assuring ample cooling capacity. And the General Electric name itself assures long-lived, dependable performance.

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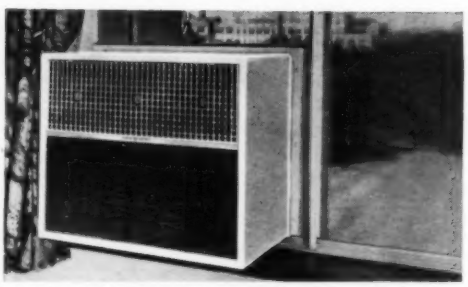
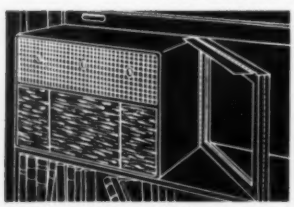
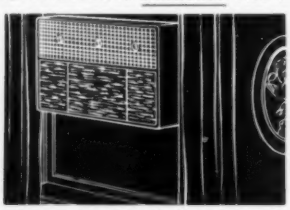


Only 16½ inches thin—1. Compact—takes up ⅓ less space than corresponding old-style models. 2. Economical to operate. 3. Easy to install. 4. Written guarantee. General Electric Company, Louisville 1, Ky.

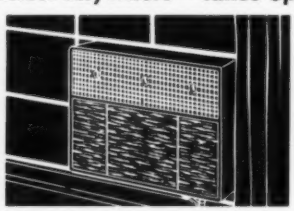
16½-inch General Electric Thinline fits almost anywhere—takes up ⅓ less space



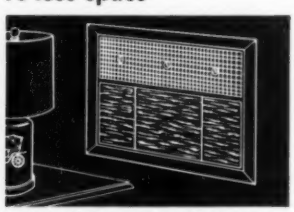
Swing-away installation permits fast, easy window-cleaning.



Fits upper or lower half of any conventional double-sash window.



Fits most casement windows—without alteration or mutilation.



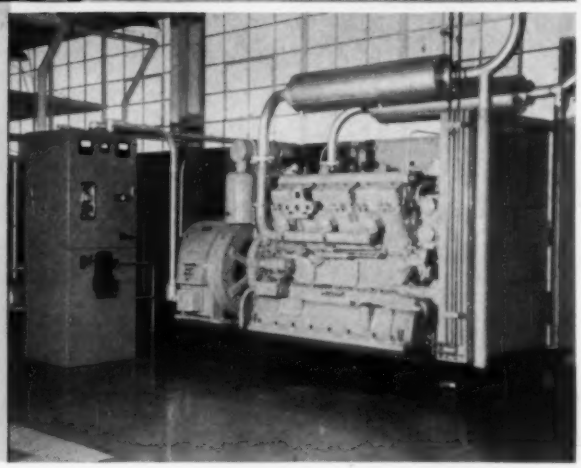
Through the wall installation for use in new or old buildings.

Is a hospital

really complete

without dependable

standby power?



Take this modern 400-bed institution—Ventura County General Hospital, in Ventura, California. You'd call it both well-planned and well-equipped. But when it first went into operation it lacked one vital factor—reliable standby power. The only emergency power available, in case of power-line failure, was some battery-operated spotlights and a small portable generator for use with the iron lungs.

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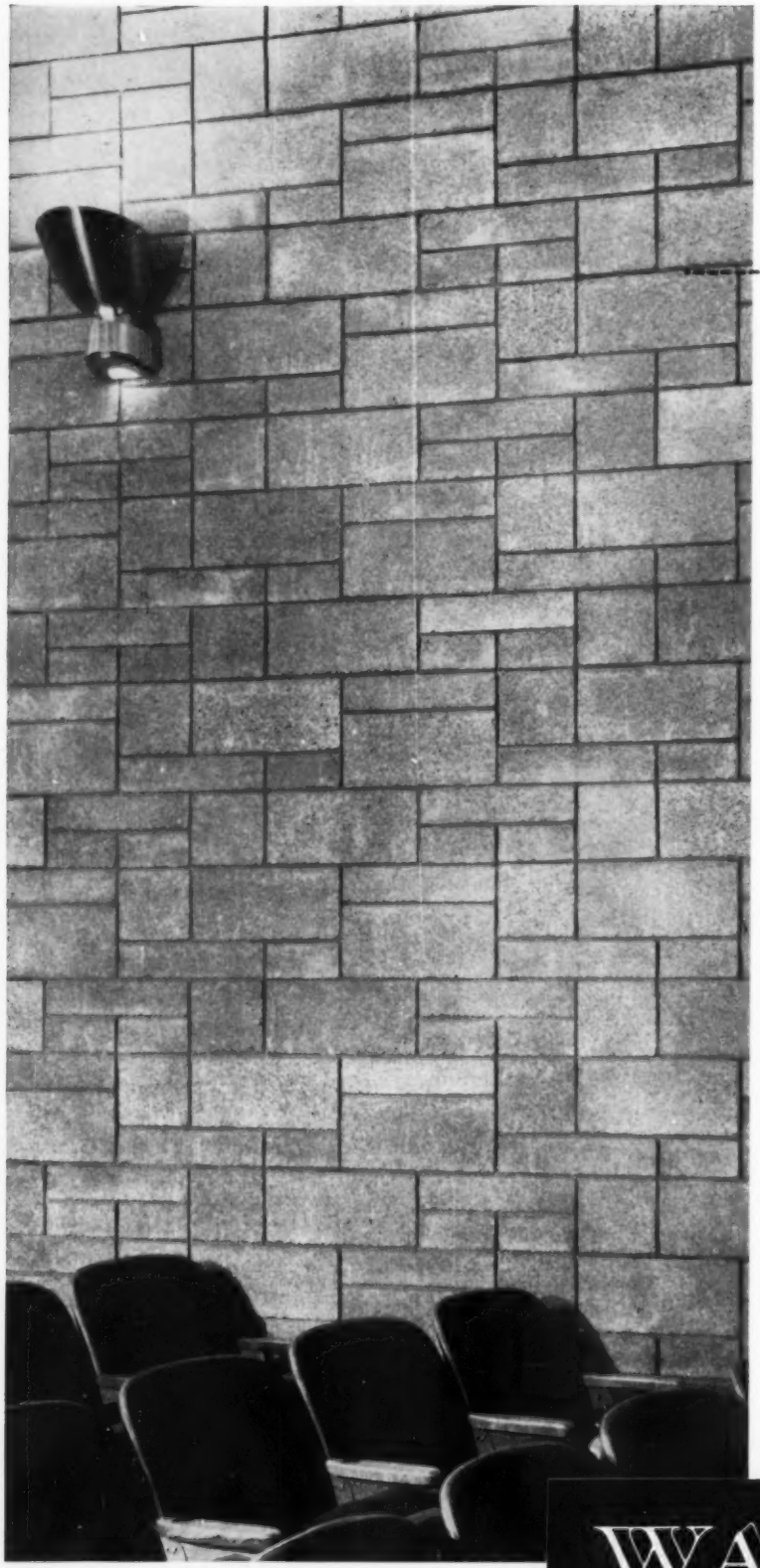

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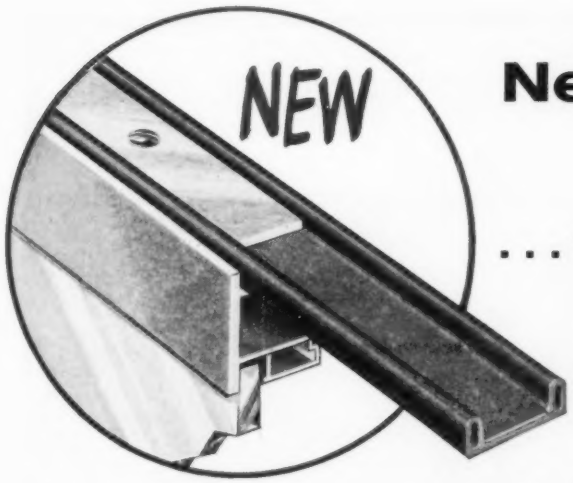

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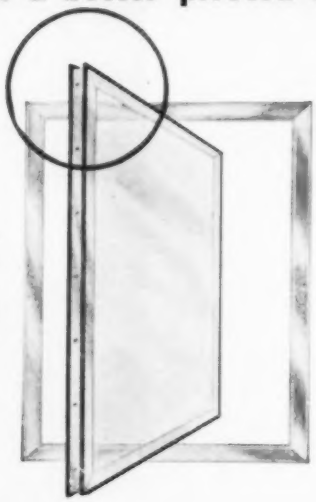
. . . the seal of a better pivoted window



Sectional view of Kawneer 360° full pivot window . . . weathersealed on all four sides with *StanSeal* chlorinated neoprene double-bulb strip.

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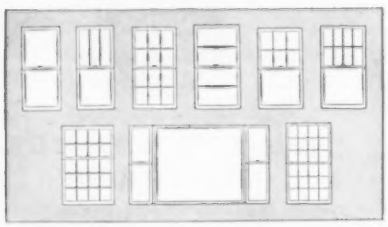
Historic Villa Louis, built in 1843 by Colonel Hercules Dousman in Prairie du Chien, Wisconsin, on the site of the original Fort Crawford.

Stately Villa Louis Owes Distinction and Comfort to Double Hung Wood Windows

Relative inexpensiveness permits generous use of double hung wood windows with metal weatherstripping.



An endless variety of design can be achieved with double hung wood windows. They are easily shaped and their surface receives and holds any type of finish.

A century ahead of his time Colonel Dousman, a man of several extraordinary talents, designed his Villa Louis as a home of arresting charm and distinction—and built into it a unique and effective air conditioning system. Wholly contained in the home is an ice house, with a four-inch air space around it; and air, cooled by the ice house, was circulated by ducts to the main dwelling. To serve both purposes of outer beauty and inner comfort this practical genius chose double hung wood windows.

Today, in order to utilize effectively the full cooling capacity of modern air conditioning, double hung wood windows with spring sash balance and metal weatherstripping are recognized as the ideal combination. Air conditioners can be easily installed in double hung wood windows. And metal weatherstripping reduces 85% of window air leakage. These and other material advantages of metal weatherstripping and double hung wood windows have earned both an unparalleled position of leadership. Best of all, home buyers appreciate the substantial installation and maintenance economies that only this combination offers.

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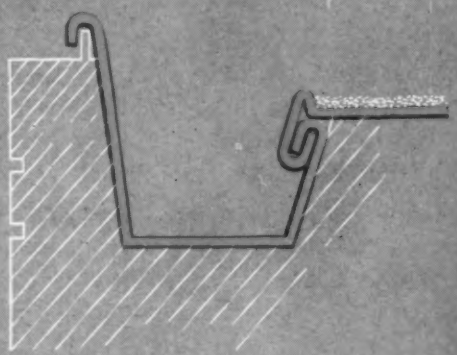
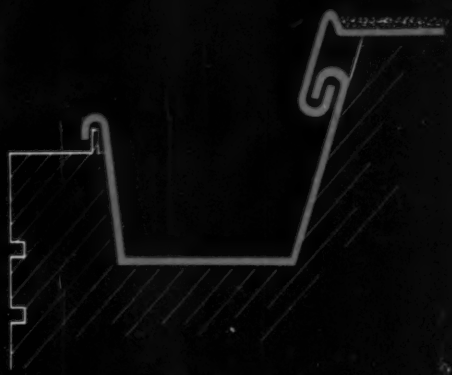
HOW WOULD YOU DO IT?

. . . this way?



ROOF GUTTER DETAIL
Fig 1

. . . or this way?



ROOF GUTTER DETAIL
Fig 2

The Fig. 1 detail indicates that the back or roof side of the gutter is 2½ inches lower than the front edge of the gutter. The gutter lining is connected to the gravel stop with an unsoldered loose lock seam.

The Fig. 2 detail indicates that the back or roof side of the gutter is 2½ inches above the front edge of the gutter. The gutter lining is connected to the gravel stop with an unsoldered loose lock seam.

The gutter shown in Fig. 1 was probably designed this way because it was feared that the rear edge of the gutter and roof would be seen from the street. In the attempt to achieve this, although the roof would probably show from a short distance anyhow, good construction detail was sacrificed.

In the event that the gutter filled with snow and ice or the drains became plugged and the gutter filled with water, the water would pour through the rear lock and into the structure.

Because of the slight change in construction as shown in Fig. 2 this trouble is avoided. Although the gutter lining and gravel stop are connected by the same type of lock as shown in Fig. 1, should the gutter fill with water, the water will run over the front edge and not into the structure.

We do not wish to presume to tell you how to design your structures or dictate their construction. For there are many satisfactory methods of installing gutters, leaders, roofs, flashing, coping covers, etc., which, of necessity, change with the design and type of construction and materials used. The purpose of this advertisement is to point out the methods of installation that have been proved by many years of use, and backed by more than a century and a half of experience in working with copper, to be the most satisfactory techniques. You will find these methods in Revere's 110 page brochure, "COPPER AND COMMON SENSE." Send for a copy today. And remember: Revere has a staff of specialists known as Technical Advisors, whose experience qualifies them to render valuable service and advice regarding the use of metals in the building field. Feel free to consult with them at all times regarding the use of Revere Copper; you incur no obligation. Revere Technical Advisors may be contacted through the Revere Office nearest you.

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You needn't budget your imagination on low budget buildings...

create distinctive, custom-styled buildings at modest cost with the Butler Building System

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To help a client in this situation, many architects are now creating distinctive, custom-styled buildings, at modest cost, by designing on a basic Butler Building.

Here the preliminary engineering of structurals and roof system are already completed. Mass production of components keeps costs lower than custom fabrication. And since all parts are pre-fitted at the factory, erection time and costs are held to a minimum.

These economical components are the base on which these architects create strikingly beautiful buildings for clients who are financially limited by tight budgets.

The photos below show how the non-load bearing walls can combine various building materials with the emphasis on beauty rather than strength. The weight of the building is carried on the rigid steel frame.

Be sure to get all the facts on the Butler Building System from your Butler Builder. His name is listed under "Buildings" in the yellow pages of your telephone directory. Also ask him to show you the sound film, "Architectural Opportunities from the Butler Building System". . . or write direct.

Imaginative use of brick, glass, and exposed steel structurals produce a truly distinctive, modern building.

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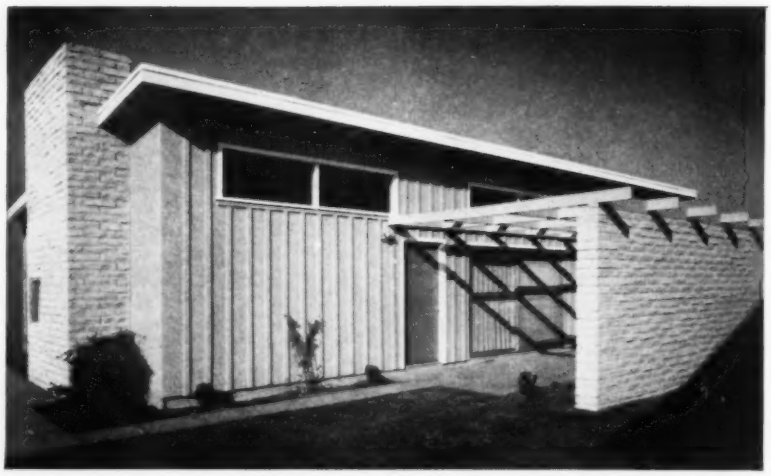


(right) Concrete masonry constructed model home in "Parade of Homes." Note slump structural wall units used.

CONCRETE BLOCK . . . . Now Recognized as a Complete Building Material

From a relatively small part in the building industry to a starring role . . . that's the remarkable record of concrete block! Even more unusual is the brief period of time in which this progress was made.

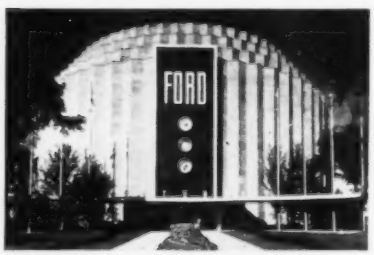
It's not so long ago that concrete block was considered suitable principally for basements. Then its use was extended to small buildings such as garages. Expansion into new applications was slow because block-making itself was a slow and painstaking process.

With the introduction of the Vibrapac automatic block machine, however, the situation changed dramatically. Almost overnight Vibrapac block caught the fancy of the building industry. Its availability and economy, combined with high quality, revolutionized old-time building concepts. The ease and speed with which Vibrapac block could be laid, the development of modular units, and its dependable uniformity attracted attention everywhere. Builders who wanted to build faster, better and more profitably swung over to concrete masonry in ever increasing numbers. Architects, seeing the almost unlimited versatility of Vibrapac block, specified block for churches, schools, theatres, commercial, government and industrial buildings as well as for housing.

(right) Dense aggregate block in stacked bond used in construction of this Sewage Treatment Plant.

(left) Note the beauty of the exposed concrete block wall in this church interior 4" and 8" units were used alternately.

To prospective owners of homes and other buildings, the new beauty and adaptability of concrete masonry were eye-opening. Because of the Vibrapac process, concrete block could be used effectively and economically in every phase of construction . . . for exterior walls, solid or veneer, interiors, partitions, floors, ceilings, corridors, entrances. In fact, the entire building from roof to basement could now be erected using one major material only . . . Vibrapac block. Furthermore, the appearance, strength and longevity would be as good or better as with any other kind of building material. Concrete block, with the aid of the Vibrapac automatic method of block production, had "arrived"!



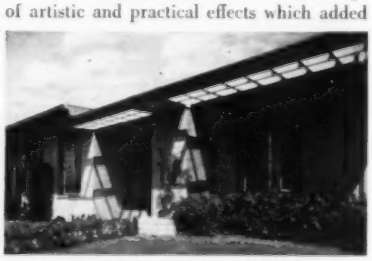
Lightweight block were selected in the construction of the beautiful Ford Rotunda at Dearborn, Michigan.

When the "building boom" developed, the true worth of concrete masonry was again demonstrated. In new homes especially, concrete block became adaptable to a wide range of artistic and practical effects which added to the spaciousness and comfort of modern living . . . without adding to the cost. Today, concrete block is recognized generally as the truly universal and complete building material. For information write Besser Company, Box 173, Alpena, Michigan, U.S.A.

Concrete masonry constructed church school. Note the unusual effect created by alternately protruding block.

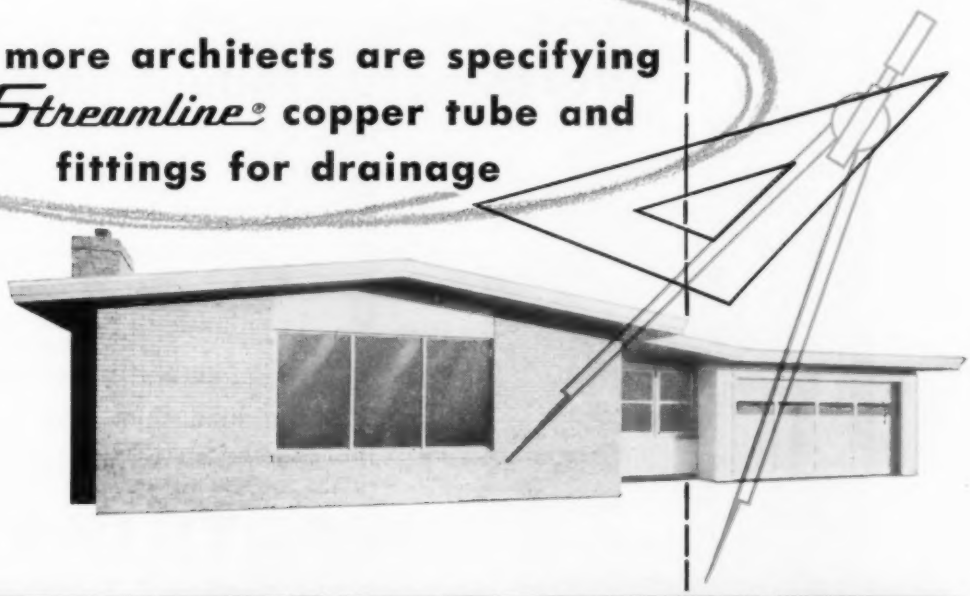
(right) Frank Lloyd Wright designed this beautiful concrete masonry home, using standard 4" high block.

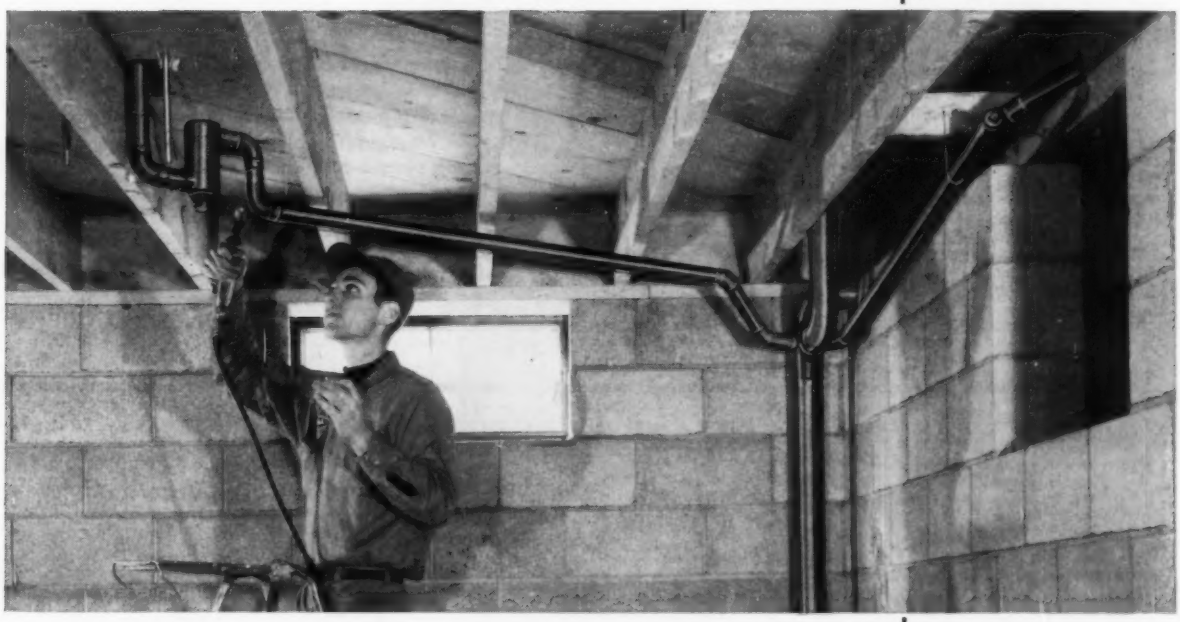
(left) Exposed concrete block in stacked bond adds charm to this residential fireplace.



California police station built of concrete block for beauty, as well as for firesafety and earthquake protection.

why more architects are specifying *Streamline*® copper tube and fittings for drainage





200-A

In designing a home, you, as an architect, consider every component with great care. That's why we'd like to point out that by specifying Streamline copper tube and solder-type fittings for drainage, you add still greater merit to your most sound architectural design. With Streamline copper tube and fittings, for example, there are no caulked joints to leak . . . no rust to impair the building's beauty and utility. In addition, compact Streamline stacks fit into standard 2" x 4" partitions . . . increasing useable house space and affording greater flexibility of design. The net result is a modern corrosion-resistant drainage system that will last for the life of the building.

It costs a little more, but the extra cost of a drainage system of copper is negligible when you compute its practical advantages.* When Streamline tube and fittings are used, it means a trouble-free future for your client's home.

Remember—the advantage of an all-copper Streamline drainage system far outweighs the small extra cost. Write today for information Kit No. 15 containing the detailed story of using copper for drainage.

* Joseph F. Fehrenbach, licensed master plumber of Bridgeport, Michigan, installed the plumbing in the home shown here. He chose Streamline tube and fittings for drainage because it gave him an attractive, trouble-free installation for only $14.23 more than other competitive materials. He was able to do the job much quicker, too.

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Architect: Same
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N. Y. STOCK EXCHANGE BUILDING (20 BROAD ST.) NEW YORK, N. Y.
Engineer: Jaros, Baum & Bolles, New York, N. Y.
Architect: Kahn & Jacobs & Sidney Goldstone, New York, N. Y.
Contractor: Raisler Corp., New York, N. Y.

UNIVERSITY OF NEBRASKA LINCOLN, NEBRASKA
Engineer: Carl Goth, Omaha, Nebraska
Architect: Hazen & Robinson, Lincoln, Neb.
Contractor: Ray Martin Co., Lincoln, Neb.

LACKLAND AIR FORCE BASE SAN ANTONIO, TEXAS
Architect: Associated Architects, Houston, Texas & York & Sawyer, New York. N. Y.
Contractor: C. Wallace Plumbing Co., Houston, Texas

LIFE & CASUALTY INSURANCE CO. NASHVILLE, TENN.
Engineer: Burns & Thorpe, Memphis, Tenn.
Architect: Edwin A. Keeble Assoc., Inc., Nashville, Tenn.
Contractor: Buchi Plumbing Co., Nashville, Tenn.

MUTUAL BENEFIT INSURANCE CO. NEWARK, N. J.
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Architect: Eggers & Higgins, New York, N. Y.
Contractor: Mance Corp., New York, N. Y.

TRAVELERS INSURANCE CO. HARTFORD, CONN.
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Architect: Voorhees, Walker, Smith & Smith, New York, N. Y.
Contractor: Alvord & Swift, New York, N. Y.

LOUISIANA STATE CAPITOL BATON ROUGE, LA.
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Architect: Dreyfus, Seiferth & Gibert, New Orleans, La.
Contractor: James F. O'Neil, New Orleans, La.

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Architect: Same
Contractor: J. L. Murphy, Inc., New York, N. Y.

AMERICAN MUTUAL HARDWARE INSURANCE CO. MINNEAPOLIS, MINN.
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Engineer: Cram & Ferguson, Boston, Mass.
Architect: Same
Contractor: C. P. Blouin, Boston, Mass.

ILLINOIS POWER CO. DECATUR, ILL.
Engineer: Holabird & Root & Burgee, Chicago, Ill.
Architect: Same
Contractor: R. H. Bishop Co., Champaign, Ill.

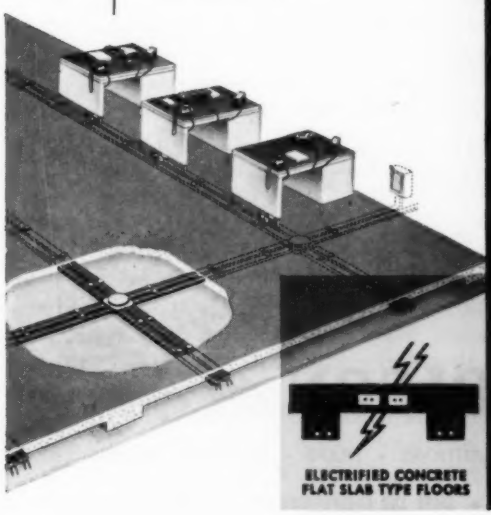
Profit by the experience of these architects, engineers, and contractors. Specify Worthington High Pressure Induction Air Conditioning for your next building. Be sure you're getting the very best. For complete details, write: Worthington Corporation, Section A.6. 124, Harrison, New Jersey.

Within steps of world-famous "Hollywood and Vine" is a striking new Pacific Coast landmark . . . Capitol Records' revolutionary $2,000,000 circular office building . . . another outstanding example of design flexibility made possible with reinforced concrete. The structure, composed of a *reinforced concrete* cylinder thirteen stories in height and ninety feet in diameter, rises above a rectangular one-story base. This unique design achieves substantial economies in construction, operation, and maintenance because stairs, elevators, washrooms, and duct shafts are located in the central core.

REINFORCED CONCRETE

provides clean, functional design for the world's first circular office building

Building	Capitol Records Office Building Hollywood, California
Architect	Welton Becket, F.A.I.A., and Associates Los Angeles, California
Structural Engineer	Murray Erick Los Angeles, California
General Contractor	C. L. Peck Company Los Angeles, California



. . . and R/C DUCT FLOORS
(FLAT SLAB TYPE)

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For the Capitol Tower, the architects chose a reinforced concrete frame with flat slab type R/C Duct Floors which provide a complete network of underfloor electrical outlets for power, light, telephone, and intercom systems—at a new low cost. Outlets can be connected to convenient risers in a matter of minutes without ripping up or drilling through floors and ducts.

R/C Duct Floors, which meet all building code requirements, consist of *standard* steel electrical distribution ducts set in reinforced concrete joist or slab floors. Cost studies show that R/C Duct Floors average 19% less than cellular steel floors! Before you design your next building, investigate R/C Duct Floors. Write for new 16-page Bulletin.

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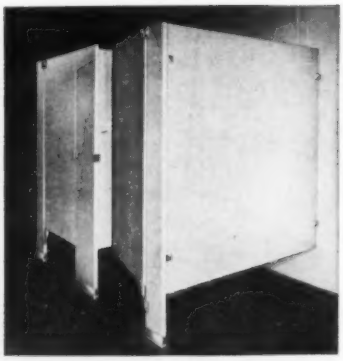

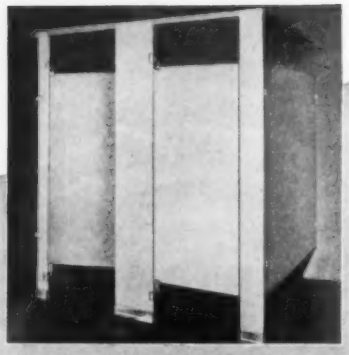

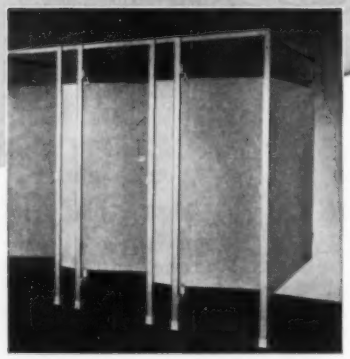

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Elementary School sizes . . . with concealed hinges

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Specify right from this new Nicholson "tell-all" bulletin!

Contains complete specifications, illustrations and engineering drawings . . . facilities, styles, construction, layouts and hardware. Send for a copy today!

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ALCOA does not make insulation of any kind. It makes ALCOA Aluminum Foil, which many manufacturers use to produce several types of insulation. Use the coupon to get your copy of ALCOA's new book about insulation.

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A. I. A. File 31-F2

RIVERSIDE HOSPITAL

Architect: James B. Bell, New York City
Engineers: Slocum & Fuller, New York City
Hospital Consultant: Otis Auer, Glen Ridge, N. J.
General Contractor: Frank Briscoe Company, Newark, N. J.

LIGHTSTEEL system helps save $250,000 for Riverside Hospital

A problem in hospital design is high cost . . . of patient comfort factors and fireproof construction. That problem becomes more acute under the confines of a limited budget—as was the case with Riverside Hospital, Boonton, N. J.

When the hospital was planned, comparative cost analyses were made of 32 different designs. Conclusion: Penmetal LIGHTSTEEL framing was just what the doctor ordered—important savings could be effected by using this system. It afforded all the advantages of conventional steel framing, but without the waste and high costs of overdesign.

The building has a total of 450,064 cu. ft. Cost including kitchen equipment, emergency generator, X-ray equipment, plus an allowance for contingencies came to $675,000. Thus the cost per cu. ft. is $1.50. That's 50 cents per cu. ft. under the national average for this type of hospital!

The architect accomplished savings through judicious use of the 3⅝" punched channel stud spaced 2 feet on center, because it was estimated that there would be no penalty for tying ⅜" Penmetal Masterib to this stud.

Economical to buy, LIGHTSTEEL also cut actual erection costs. Because they are light in weight, complete wall units could be shop-assembled . . . then trucked to the job site for immediate placement. Other savings were obtained by precisely engineered openings in the sections which simplified through-frame installation of wiring and plumbing.

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METAL MADE Penmetal 1869 OF QUALITY

PM-109

Schube-Soucek, Chicago

No. 8 in a series

something *Special* by Curtis

LIGHTING TO SELL

(or how Curtis Designers and Engineers, through collaboration with the architects, helped solve another lighting problem.)

GENERAL INFORMATION

The lighting installation pictured at the left is typical of the store's main selling areas. Surface characteristics of this area are:

CEILING:	acoustical tile	off-white	78% RF
WALLS:	plaster	light pastels	60-70% RF
FLOOR:	asphalt tile	light tan	45% RF

THE PROBLEM

To design a circular incandescent recessed luminaire of sufficient size to create a pleasing atmosphere of casual spaciousness in harmony with the center's suburban surroundings, and to provide high level quality illumination with warm color rendition for a wide range of merchandise in home-like surroundings.

Turn the page for the solution to this problem.

CARSON PIRIE SCOTT & CO.

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ELECTRICAL CONTRACTOR:
WADEFORD ELECTRIC CO., CHICAGO

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CHICAGO 38, ILL.

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LOS ANGELES 33, CALIF.

in Canada
195 WICKSTEAD AVE.
TORONTO 17, CANADA

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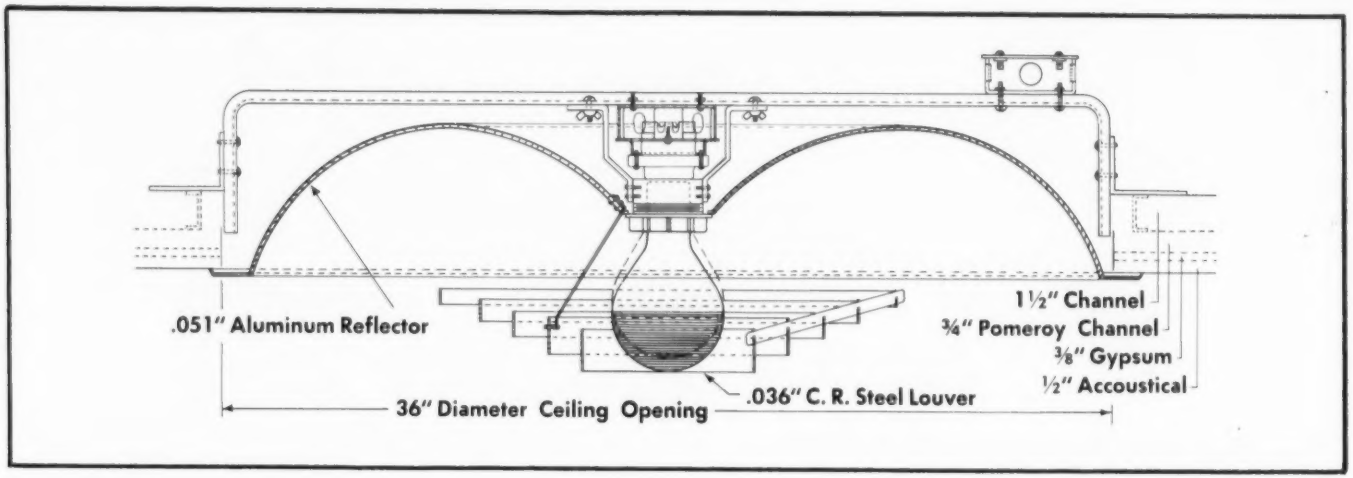

FIG. 1.

FIG. 2.

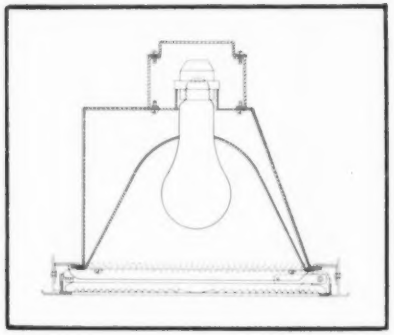

FIG. 3.

THE SOLUTION

The luminaire as installed, is an inverted bowl-type recessed unit, specially designed for Carson Pirie Scott & Co.

Measuring 37½" in diameter from flange to flange, the assembly is installed in a 36" diameter ceiling opening. The unit's reflector is spun of aluminum, etched and finished is baked matte white Fluracite enamel.

The entire reflector is supported and held in place by a bushing that is part of the socket arrangement. The socket assembly is rigidly fastened to the mounting yoke, which is supported on 1½" structural ceiling channels by means of angle members fastened to the yoke. Fig. 1 is a cross section of the luminaire.

Shielding of the 300-Watt mogul base silver bowl lamps used in these luminaires is provided by a matte white Fluracite finished concentric ring steel louver. The louver snaps onto three supporting arms that are riveted to the reflector.

The attractive and modern open design of the luminaire affords complete accessibility to all parts, and with the durable white Fluracite finished applied to both reflector and louver, maintenance is cut to a minimum. Relamping is done from the floor with a pole-type lamp changer.

In addition to providing overall illumination, this special luminaire offers flexibility for obtaining a degree of accent lighting in special display areas by replacing the silver bowl lamp with a semi-silvered bowl lamp.

The architects felt that special selling areas located outside of the main selling areas, such as the women's department shown in Fig. 2, required a smaller unit for distinction. Curtis Designers and Engineers adapted the horizontally positioned lamp of the standard Curtis 2400-2500 Series Square Recessed unit, originally designed for installation in shallow ceiling cavities, for a vertical positioned 150-Watt lamp. Fig. 3 shows the adaptations. Installed with a Corning wide angle lens, this unit offers a finished appearance unbroken by hinges, nuts or other finishing devices.

Maintenance of this unit is also minimized. Relamping is done from the floor, and by wrapping a cloth around the end of the pole changer and dry-dusting the reflector and lens, the efficiency of the unit is restored.

Thus it is, through collaboration such as this, that Curtis Designers and Engineers were able to help provide the solution to another lighting problem.

LIGHTING PROBLEM? NEED HELP? CALL YOUR CURTIS SALES ENGINEER!

This auditorium is part of a proposed new Civic Center in Tallahassee, Fla.

Plan shows how entire area can be divided into two separate auditoriums.

DAMORA

TOMORROW'S AUDITORIUM: flexible design gives triple use

"Backbone of this structure is a single parabolic reinforced concrete arch, from which thin concrete roof shells are suspended. These shells cover a spacious area, which can be divided into two separate auditoriums, or the entire space can be used for sports or other mass spectator events. Visibility is excellent, because there are no supporting columns. Dramatically conceived, this structure uses concrete in varied ways: in addition to the concrete arch and the thin roof shells, the exterior walls are made up of precast concrete blocks, while the large plaza is paved with precast concrete slabs. This building demonstrates the versatility of one of our most creative building materials—concrete."

The Architects Collaborative, Cambridge, Mass., *Architects* • Paul Weidlinger & Mario Salvadori, New York, N. Y., *Engineers*

■ One of a series of advertisements being presented in national magazines by Universal Atlas – to promote interest in architectural contributions for a greater America through the medium of concrete. For more about this building method, write to Universal Atlas, 100 Park Avenue, New York 17, N. Y.

UNIVERSAL ATLAS CEMENTS

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ATLAS LUMNITE CEMENT
UNAFLO OIL-WELL CEMENT

UNIVERSAL ATLAS CEMENT COMPANY—MEMBER OF THE INDUSTRIAL FAMILY THAT SERVES THE NATION—**UNITED STATES STEEL**

USS

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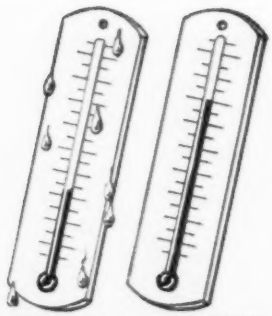
CONDENSATION – HEAT LOSS – HEAT INFILTRATION...



WILSON AIR-COR ROOF PANELS FIGHT WEATHER *with weather-air*

By providing air circulation throughout the roof of a structure, Wilson Air-cor uses Nature's own *weather-air* to overcome the problems of weather. Regardless of the difference between inside and outside temperatures—Nature's own way turns out to be the surest protective system.

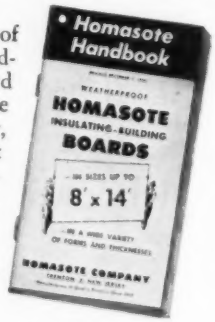
Wilson Air-cor banishes the problem of condensation, and now — after a year of widespread use — owners also report greatly reduced heating costs in Winter, and far cooler structures in Summer. The reason lies in the formidable array of insulating materials in Air-cor — most of all, *weather-air in motion.*

Each 2′ x 8′ panel consists of two pieces of Homasote Insulating-Building Board nailed and glued on three 2 x 2 wood members 12″ o.c. A vapor barrier — ¾″ of batt-type insulation — and a ventilated paper are on the lower inside. Each panel has an opening at the end 16″ wide for air to flow through from panel to panel.

Wilson Air-cor's three-way protection against condensation, heat loss, and heat infiltration make it *the* reliable roof decking in any climate. For extreme conditions, forced ventilation may be used.

Complete data on Wilson Air-cor, from insulation factors to application details, are contained in the 68-page Homasote Handbook. On Pages 49-54 you will find results of the University tests of Wilson Air-cor, information about the special ridge panel, and complete specifications. As a finished ceiling, Air-cor offers three different surfaces — Standard Linen, Striated, or Wood-textured. The beveled tongue-and-groove provides a clean-cut V. For added strength, ⅝″ Homasote instead of Standard $^{15}/_{32}$″ is available on the top side, and for fire protection Sote Asbestos Board can be supplied on the bottom. You specify nail holes predrilled for 32″ or for 48″ spans.

Complete practical detail is typical of each chapter in the Homasote Handbook. Now revised and in its third edition, this building manual should be in the hands of every architect, builder, and dealer. Kindly address your request for the Homasote Handbook — without obligation or cost—to Dept. B-12.

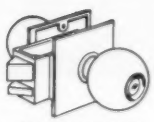


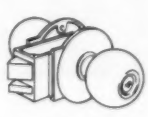
Coming—a new Wilson Air-cor material to reduce air-conditioning costs.

HOMASOTE COMPANY • TRENTON 3, NEW JERSEY

AERO DESIGN in cast brass, bronze or aluminum. Diameters: Knobs, 2-3/32" x 1 3/4". Escutcheons, 3 1/8" x 3 1/4".
Client Appeal
2 new uniloc designs
TURBO DESIGN in cast brass, bronze or aluminum. Diameters: Knobs, 2-1/32" Escutcheons, 3 1/8" x 3 1/4".

NEW STYLING plus the unique, unit-construction of Unilocs now offer you an exceptional opportunity to emphasize the extra care given to details in your planning. Unilocs are not ordinary locks in any sense of the word. Their conception is based upon the complete assembly of lock parts at the factory so that no disassembly is required for installation or removal. Thus all cramping or binding of parts is avoided—smooth action assured—and wear reduced to a negligible factor. Finishes available include: dull brass, polished brass, dull bronze, bright chromium, dull chromium and dull aluminum. Ask your Russwin representative to show you the new Turbo and Aero designs. Be sure to check and compare costs. Russell & Erwin Division, The American Hardware Corporation, New Britain, Conn.


MODERA DESIGN


BRISTOL DESIGN

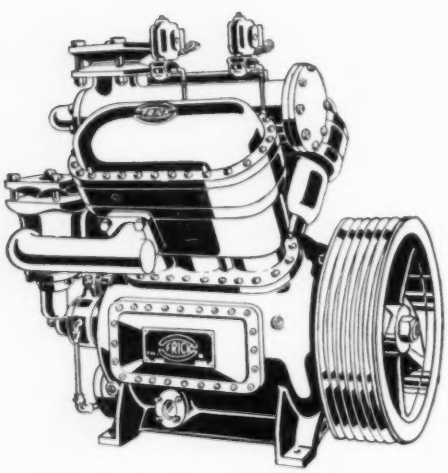
MONO DESIGN

RUSSWIN
UNILOCS
A symphony in lock making

TRADE FRICK MARK®

Air Conditioning

Serves Throughout this Unique Hotel



Nine Frick "ECLIPSE" Compressors Air-Condition the Claypool Hotel at Indianapolis

Famed as the first COMPLETELY air-conditioned large hotel north of the Mason-Dixon Line, the Claypool at Indianapolis selected Frick equipment because it had used Frick Refrigeration for food service since 1939.

Nine Frick "ECLIPSE" compressors, installed by Decker and Roberts of Forth Worth, carry the air conditioning load, which is divided into three systems.

You get the utmost in air conditioning, ice making, quick freezing and other cooling services when you specify "Frick." Let us quote now on your commercial or industrial cooling needs.

DEPENDABLE REFRIGERATION SINCE 1882

FRICK CO.

WAYNESBORO, PENNA. U.S.A.

Lakeview Country Club, Oklahoma City, Oklahoma.
Installed by Hogue-Stone Flooring Co. of Oklahoma City.

4 Important Reasons Why *Homogeneous Vinyl* Bolta-Floor is being specified

1. Bolta-Floor offers unlimited design opportunities to residential, commercial and institutional interiors. It is superior in quality, more versatile in color and style. Demand this beauty.

2. The high vinyl content and fully homogeneous construction of Bolta-Floor guarantees a lasting lustre that resists scuffs, stains and wear. It's non-porous... is unharmed by water and detergents.

3. The resilient qualities of premium vinyls permit Bolta-Floor to yield quietly to impact and resist permanent indentation. Bolta-Floor recovers more quickly. Demand this comfort.

4. Bolta-Floor has dimensional stability... will not chip, crack, peel or shrink. It retains its original beauty year after year, even in heavy traffic areas. Demand quality! Specify Bolta-Floor.

Bolta Floor

THE FINEST QUALITY FLOORING FOR

HOSPITALS
SCHOOLS
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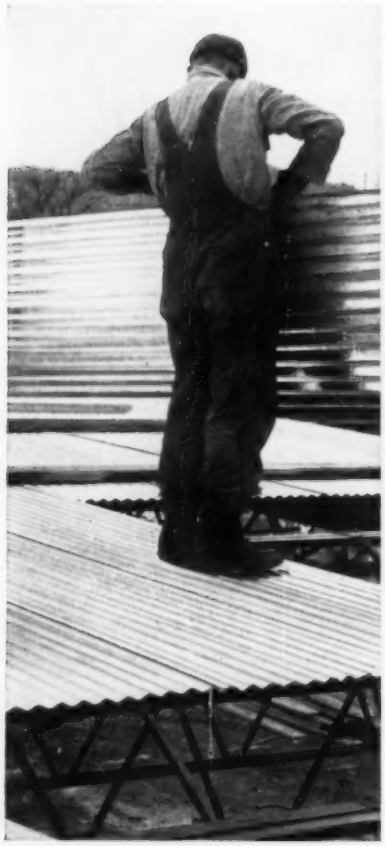
HOTELS
HOMES
MOTELS
BANKS
APARTMENTS

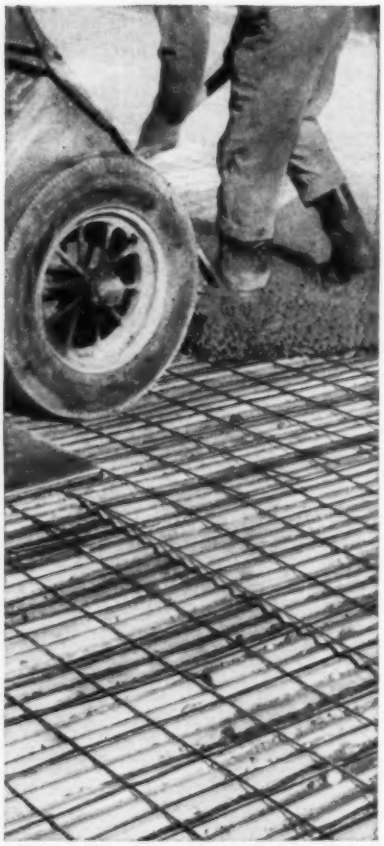
FOR SAMPLES WRITE **THE GENERAL TIRE & RUBBER COMPANY**

Flooring Division • Akron, Ohio



EASY TO HANDLE. Light Corruform sheets span up to 30', are quickly welded or clipped to steel joists, can be easily cut to fit openings.

ROLL OUT MESH. Corruform in place offers an immediate, safe work platform, withstands normal construction abuse, adds stiffening to joists.



FAST CONCRETING. Rigid Corruform sheets permit slab to be cast and finished in one operation. The finished slab is ready for floor covering.

Have you ever seen a faster, easier way to construct reinforced concrete floors?

Secure Corruform® to joists . . . roll out mesh . . . place concrete. That's all there is to it! Corruform corrugated steel base makes cast-in-place floor slabs strong, safe, easy to erect because Corruform sheets are light yet nearly *twice as strong* as ordinary steel of comparable weight. The minute Corruform is down, you can walk on it, work on it. Rigid sheets resist dents and punctures, distribute loads, eliminate pull on joists, provide a tight, solid base for concrete. And because Corruform is 100,000 psi steel, it carries concrete over joists without sag, stretch, bend or leakage. Sheets retain cement paste, speed finishing, assure true and level finish. Corruform has been used extensively throughout the U. S. on almost every type of building. Stocks available from coast to coast. Get more information by writing Granco home or district office. ATTN.: Dept. R-72.

CONCRETE YOU SAVE PAYS FOR CORRUFORM

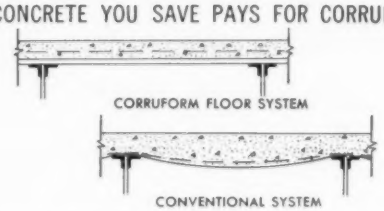


Diagram shows how Corruform stays level, saves about 20% or more in concrete over "flexible type" centering.

GRANCO

SINCE 1870 GRANITE CITY STEEL

See our catalogs in Sweet's Architectural and Industrial Files

GRANCO® STEEL PRODUCTS COMPANY

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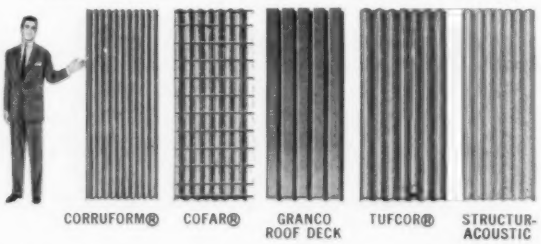


See What Square D's Front-Connected *POWER-STYLE* Switchboards Offer!

NEW!

First *completely standardized* switchboard built specifically for small and medium-size installations. Bus bars designed to assure *cool operation in a depth of 14 inches!*

Complete *front accessibility* allows all bus bars and branch circuit connections to be installed and removed *from the front!* Permits mounting directly against wall.

Off-center mounting of breakers (or QMB fusible switches) in right hand section provides maximum room for installing cables from larger units.

Standardized C/T compartment built to meet Edison Electric Institute and Public Utilities' specifications.

Completely standardized horizontal bussing is available up to 2000 amperes, at either top or bottom. Notice bus bar drillings for extension to future sections.

Standardized C/T compartment designed to provide most flexible arrangement. Available in either "hot" or "cold" sequence, top or bottom feed. When used without main disconnect in "hot" sequence, up to six subdivisions can be mounted in same section with C/T compartment.

Write for descriptive bulletin
Address Square D Company, 6060 Rivard Street, Detroit 11, Michigan

SQUARE D COMPANY

ON THE NEWS FRONT WITH STRUCTURAL STEEL

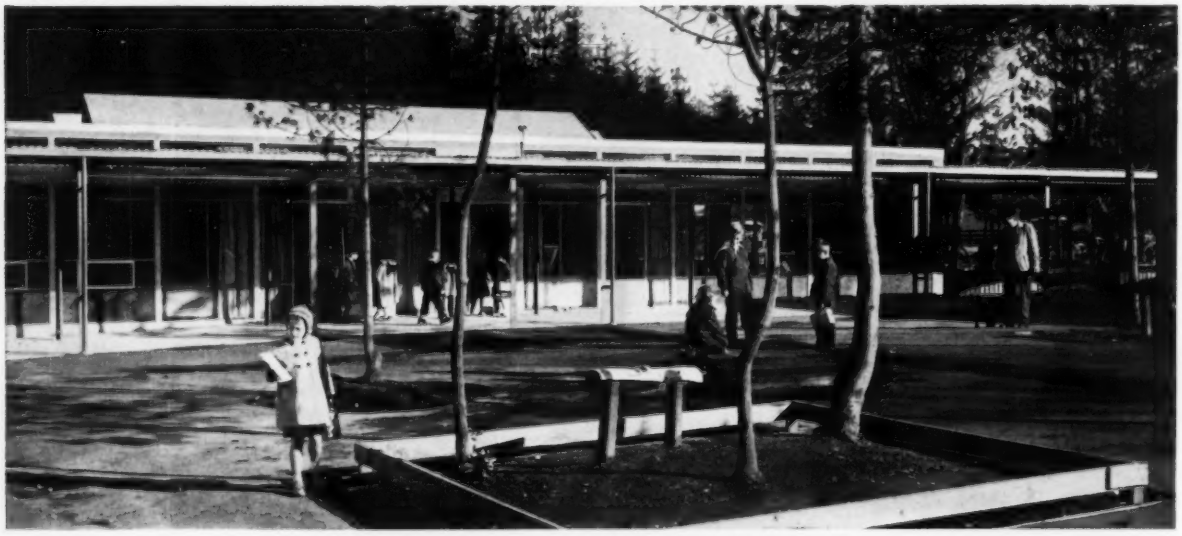
North Street Elementary School, Greenwich, Conn., was designed by Sherwood, Mills & Smith, architects, Stamford, Conn. Contractor: A. Barbaresi & Son, Mt. Vernon, N. Y. Steel fabricators: County Iron Works, Port Chester, N. Y. Structural Engineer: Seelye, Stevenson, Valve and Knecht, New York City.

New Look for Schools . . . on East and West Coasts

These two schools, the Woodway School near Seattle, Wash., and the North Street School in Greenwich, Conn., represent the newest trends and concepts in modern school design. Both are one-story structures, set in attractively landscaped grounds; both have functional, well-lighted classrooms; both were built for beauty and permanence.

In these, as in so many other new schools going up around the country, the architects relied on Bethlehem structural steel to provide a rugged framework for the buildings. Strong, fire-resistant and adaptable to a wide variety of architectural forms, structural steel has an important place in the designing of the modern school.

Woodway Elementary School, near Edmonds, Wash., north of Seattle, was designed by Waldron and Dietz, architects of Seattle. General contractors: Venne Beauchamp, Everett, Wash. and O. E. Turnquist Construction Co., Seattle. Steel fabricators: Arcweld Manufacturing Co. and United Iron Works, both of Seattle.



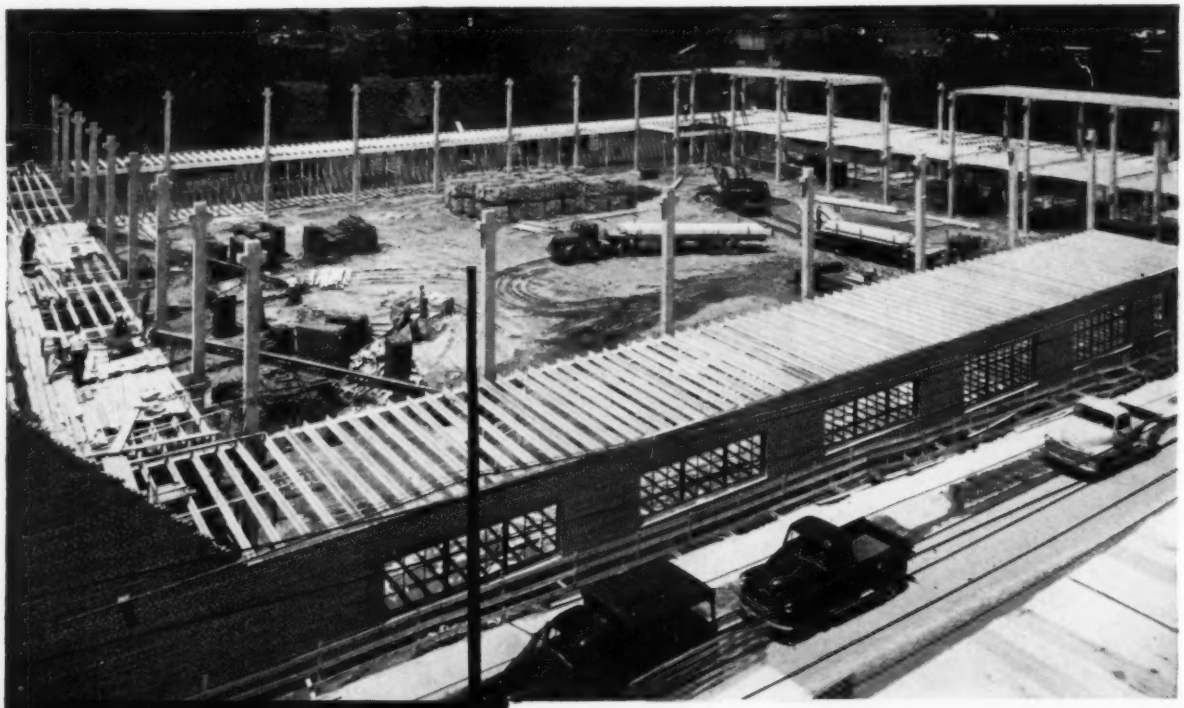
BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

BETHLEHEM STEEL

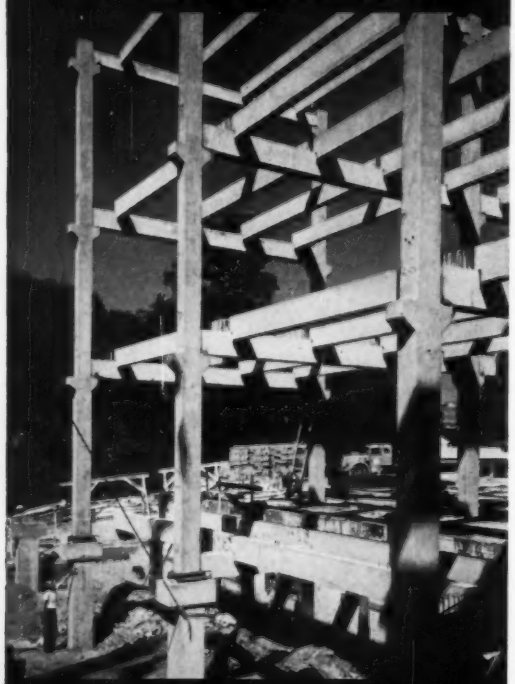
BETHLEHEM STEEL

You are cordially invited
...to come visit us and see our complete line of distinctive Air Conditioning Outlets
TITUS EXHIBIT
Booths No. 117 and 121
INTERNATIONAL HEATING & AIR CONDITIONING EXPOSITION
Feb. 25-Mar. 1, 1957
INTERNATIONAL AMPHITHEATRE, CHICAGO
Titus
MFG. CORP.
TITUS MANUFACTURING CORPORATION • WATERLOO, IOWA



Upper photo: Finishing plant is 196 feet by 296 feet and two stories high.

Lower photo: A portion of the manufacturing plant, 270 feet by 259 feet, which is two, three and four stories high.



Consulting Engineer: WALTER PREIMATS, Asheboro, N. C.
General Contractors: FRANK L. BLUM CO., Winston-Salem, N. C.
Contractor for precast columns, beams and joists: ARNOLD STONE CO., Greensboro, N. C.
Concrete for precast members furnished by: READY MIXED CONCRETE CO., Greensboro, N. C.

PRECAST STRUCTURAL CONCRETE and LEHIGH EARLY STRENGTH CEMENT

These two buildings provide a good example of the adaptability—and rapidly increasing use—of precast concrete for all types of structures. Built for the B. F. Huntley Furniture Co., Winston-Salem, N. C. they have 246,000 square feet of floor and roof area, framed entirely with precast concrete columns, beams and joists.

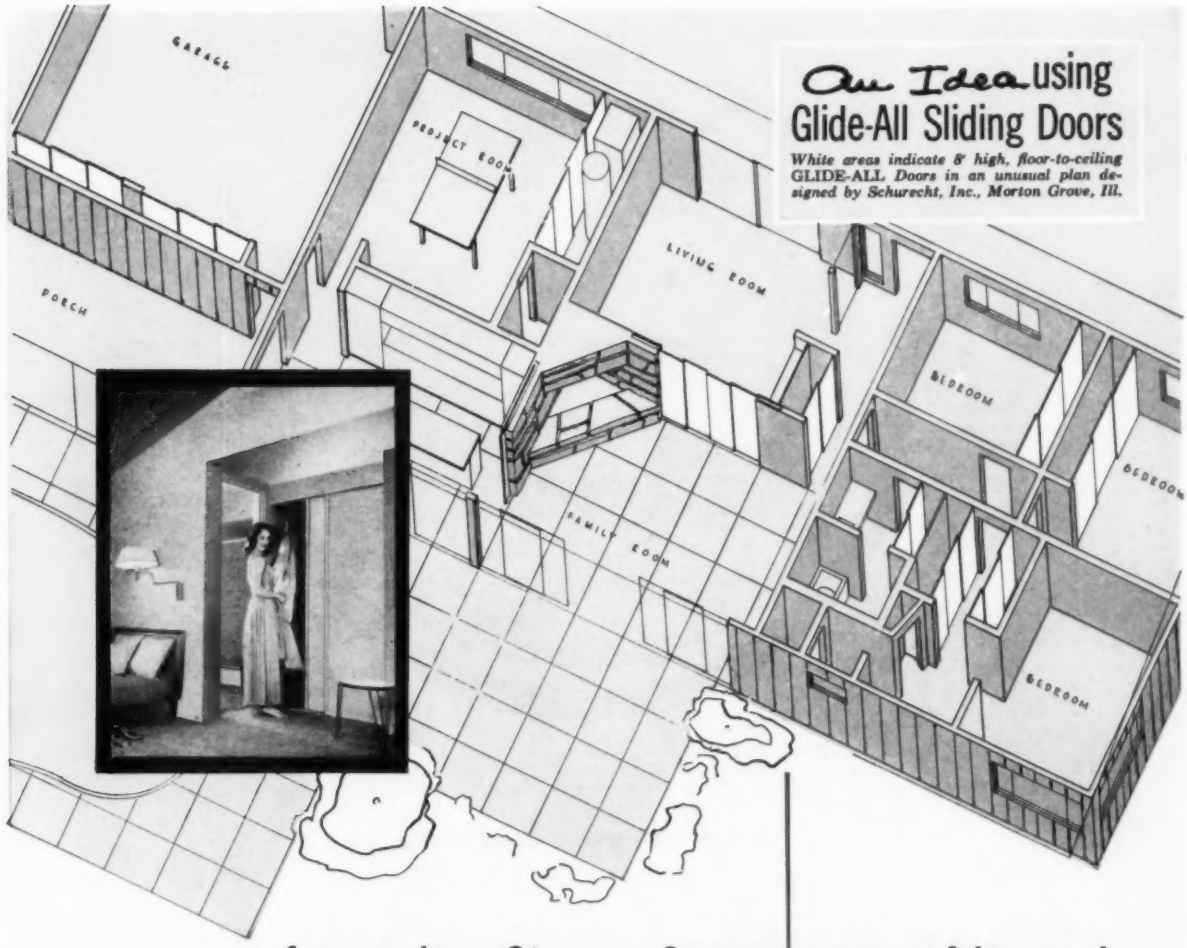
In the precasting of these members, Lehigh Early Strength Cement was used to achieve maximum production efficiency and economy.

"Structural members which were cast one day were stripped from their forms the following day and moved to storage," writes Mr. W. D. Shea of the Arnold Stone Company. "By using Lehigh Early Strength Cement, the precasting operation was completed in 50% of the time which would have been required had we used regular portland cement."

This is typical of the advantages of Lehigh Early Strength Cement in modern concrete construction.

- LEHIGH EARLY STRENGTH CEMENT
- LEHIGH MORTAR CEMENT
- LEHIGH PORTLAND CEMENT
- LEHIGH AIR-ENTRAINING CEMENT

LEHIGH PORTLAND CEMENT CO.
Allentown, Pa.



An Idea using Glide-All Sliding Doors

White areas indicate 8' high, floor-to-ceiling GLIDE-ALL Doors in an unusual plan designed by Schurecht, Inc., Morton Grove, Ill.

for modern Storage Space...more of it...and economically too!

GLIDE-ALL® *Sliding Doors*

■ Perfectly "at home" in *any* kind of house . . . an extensive custom ranch . . . or modest low-cost units, GLIDE-ALL Doors provide the *extra* storage space that home buyers demand. *Here are their advantages:*

APPEARANCE OF QUALITY — As modern wall panels they become part of the room, may be decorated in any way desired.

ECONOMY IN FINAL COST — Floor-to-ceiling installation saves construction time and materials. Through Woodall Engineering and Manufacture you are assured of the lowest "package door" unit cost.

INSTALL QUICKLY — ADJUST EASILY — They're installed in three simple time-saving steps, unusual adjustment features designed by Woodall fit them to the openings with little time and effort.

Big house, little house, you'll find GLIDE-ALL Doors the better choice for Modern Storage Space . . . More of it . . . At Lower Cost. See Sweets Catalog Files or write the Woodall Plant nearest you for complete details.

GLIDE-ALL Doors are available in principal cities throughout the United States and Canada. For information write Plant nearest you.

GLIDE-ALL DOORS ARE A PRODUCT OF

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Sound-Elec Test Chamber where every Jenn-Air Unit is tested.

QUIET-TESTED EXHAUSTERS

"Given the Works" / BY JENN-AIR

SOUND-ELEC TEST CHAMBER!

Only Jenn-Air Quiet-Tested Exhausters are pre-proved under simulated field conditions. Before leaving the factory, each unit must pass rigid inspection by the critical "Vibronic Eye" . . . each is screened in Jenn-Air's Sound-Elec Test Chamber to detect noise, vibration, and structural weakness. In Jenn-Air Exhausters, U-Springs suspend the power assembly—isolate it from the base of the unit. Motor and blade are balanced together, as a safeguard against vibration and noise. Result: the quietest exhausters on the market. How about maintenance cost? There is virtually no upkeep on Jenn-Air Exhausters. Installation is easy and inexpensive. Ball bearing motors are lubricated for 10 years of normal operation. Spun-aluminum, rust-proof exhausters never need painting.

Jenn-Air Low-contour Roof Exhausters, unlike most industrial-type ventilators, live in architectural harmony with modern roof lines.

Jenn-Air Wall Exhausters—architecturally-sculptured button design spots ventilation control.

JENN-AIR PRODUCTS COMPANY, INC.

1102 Stadium Drive • Indianapolis 7, Indiana

R. LAIDLAW LUMBER CO., Weston, Ont.
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Painting Contractors: H. J. Linington Co. Ltd. Toronto, Ontario and O. Brankston and Sons Limited also of Toronto.
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Beautiful MARLITE Paneling–cuts days off installation time, lowers "in place" costs!

Are you overlooking the real advantages of prefinished Marlite Plank and Block in your dry wall building and remodeling jobs?

Easy installation, for example. The 16″ x 8′ Planks and 16″ square Blocks go up fast over old or new walls. An exclusive tongue and groove joint simplifies fitting, conceals all fastening . . . assures faster job completions.

Marlite provides more beauty and customer satisfaction, too. This easy-to-handle paneling is available in new Loewy "Companion Colors" plus distinctive wood and marble patterns. Moreover, the soilproof melamine plastic finish resists scuffs, stains, moisture. It wipes clean with a damp cloth; never needs redecorating.

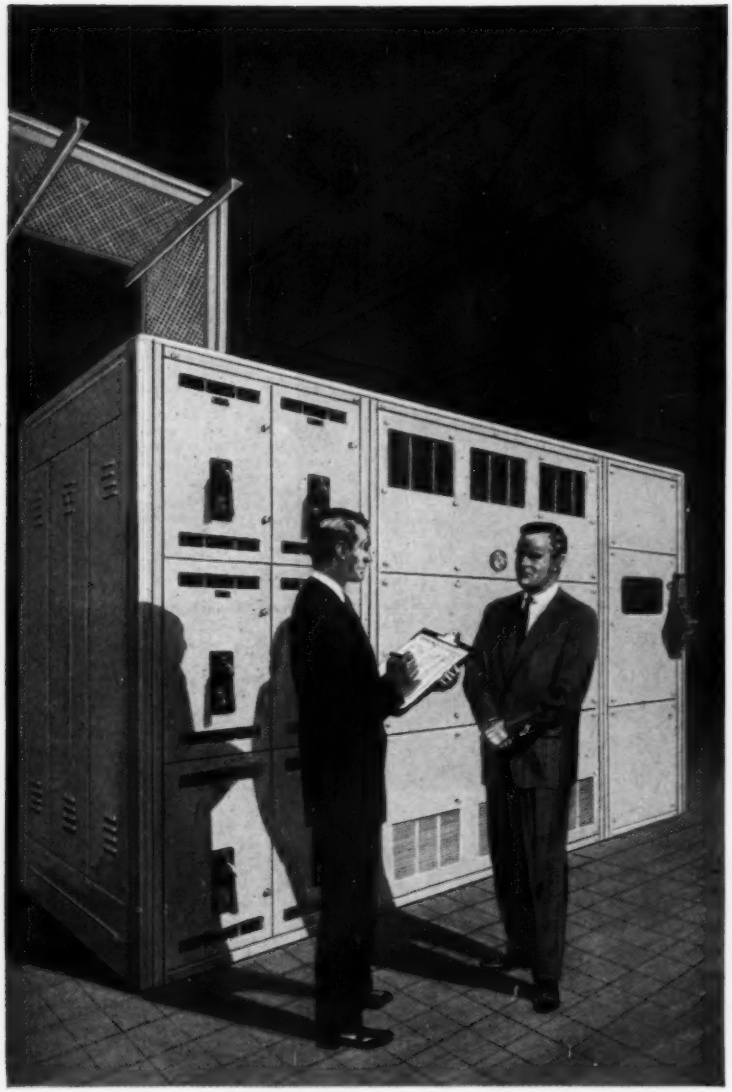
Plan on Marlite Plank and Block to give walls and ceilings that luxury look. See your building materials dealer, consult Sweet's File, or write Marlite Division of Masonite Corporation, Dept. 205, Dover, Ohio.

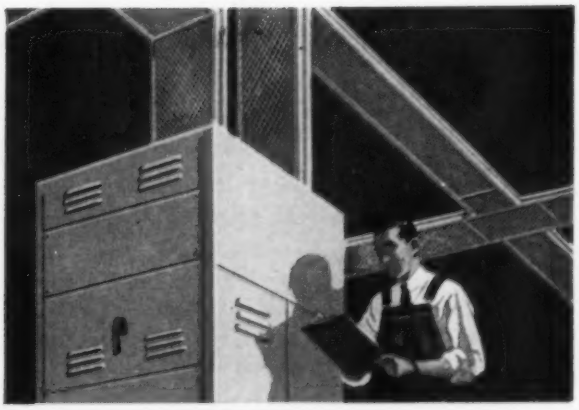
OPERATION Better Your Living HOME IMPROVEMENT

that's the beauty of **Marlite®**

plastic-finished paneling

MARLITE IS ANOTHER QUALITY PRODUCT OF MASONITE® RESEARCH





Exclusive Lo-X Scarf-lap Construction provides rigidity and strength. Tailored lengths overlap and bolt together easily. Elbows, tees and cross sections permit installation to fit specific plant layouts.

The BullDog field engineer stands ready with the detailed information you and your plant engineers may need to plan an efficient power network for new or existing facilities. Take advantage of his know-how in your planning.

Aluminum Lo-X—low-cost key to electrical efficiency!

Leading industrial plants everywhere are using BullDog aluminum Lo-X feeder duct as a vital part of their electrical distribution systems. Invariably—this leads to increased electrical efficiency and savings right down the line.

First savings come with the initial investment in space-saving Lo-X BUStribution® duct! The lightweight, prefabricated aluminum sections cost less to buy—less to install. Next, current-carrying costs are the lowest possible . . . maintenance is reduced to almost nothing. Finally, reusable Lo-X can be relocated without loss if needs change. Consult your BullDog field engineer —see how a complete BullDog system, from safety switches to unit substations, can be your key to real electrical efficiency and economy.

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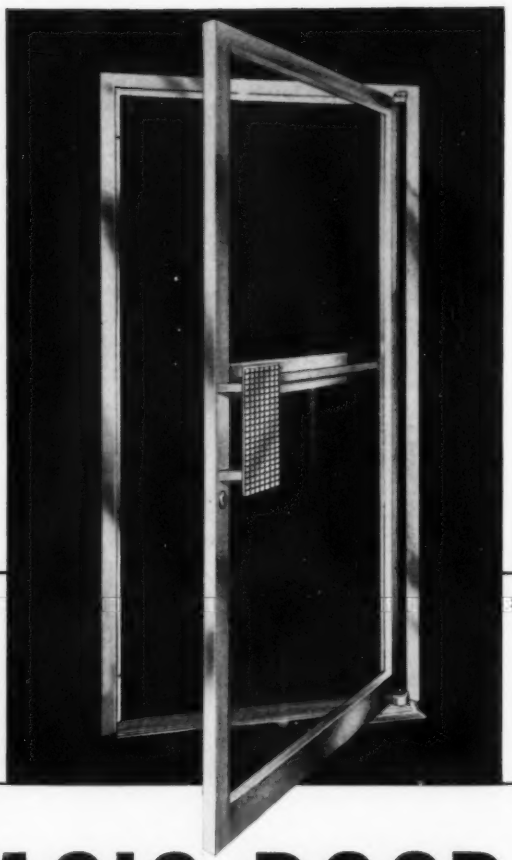
complete design flexibility with interchangeable hardware

4 basic push-pull groups—
2 with custom-design FACE PLATES

You can individualize the Kawneer narrow-stile door, with the new interchangeable hardware. Your own design or monogram in color, and in aluminum, wood or plastic is easily adapted to Styles B and M hardware. Never before has such versatile hardware been available with such ease of installation.



ONE BASIC DOOR

with hardware for every need

MS (maximum security) Deadbolt by Adams-Rite offers extra protection against forced entry.

Panic Device by Kawneer is designed with fewer parts, a bar shaped to fit the hand, and for lower cost.

The new Kawneer narrow-stile door has all the qualities of a "custom-made" product. Welded construction is used to insure maximum strength with slim, attractive lines. Deep etch alumiliting and no exposed screws assure continued good appearance. The wide selection of hardware provides great flexibility of design. See Sweet's $\frac{16a}{Kaw}$ for complete information.

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ryolex corporation, 310 east bradley street, champaign, illinois—telephone: 6-4234

silbrico corporation, 5901 west 66th street, chicago 38, illinois—telephone: reliance 5-3322

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airlite processing corporation, scottsburg, indiana (office), vienna, indiana (plant)—telephone: plaza 1-5538 and plaza 1-8821

MASSACHUSETTS
the whittemore company, 35 harrison street, roslindale 31 (boston), massachusetts—telephone: fairview 3-6020

MICHIGAN
gregg products company, 646 chestnut street, s. w., grand rapids, michigan—telephone: glendale 4-5322

MINNESOTA
minnesota perlite corporation, 315 west 86th street, minneapolis 20, minnesota—telephone: south 1-8924

MISSOURI
j. j. brouk and company, 1367 south kingshighway blvd., st. louis 10, missouri—telephone: jefferson 3-9022

NEW JERSEY
certified industrial products, inc., 1344 liberty avenue, hillside, new jersey—telephone: murdock 8-1921

NEW YORK
certified industrial products, inc., 1344 liberty avenue, hillside, new jersey—telephone: murdock 8-1921

buffalo perlite corporation, 100 sugg road (cheektowaga), buffalo 25, new york—telephone: plaza 4326

NORTH CAROLINA
carolina perlite company, p. o. box 158 salisbury, north carolina—telephone: 3986

OHIO
indoken perlite company, 5300 vine street, cincinnati 17, ohio—telephone: avon 9946

PENNSYLVANIA
pennsylvania perlite corporation, p. o. box 694, allentown, pennsylvania—telephone: congress 4-2891

perlite manufacturing company, p. o. box 478—arch street extension, carnegie, pennsylvania—telephone: walnut 1-9200 (pittsburgh)

TEXAS
perlite of houston, inc., 3010 dixie drive (office), 502 fauna avenue (plant), houston, texas—telephone: jackson 8-2243

texas lightweight products company, 117 north britain road, irving, texas—telephone: 2-8181 (irving), randolph 5354 (dallas)

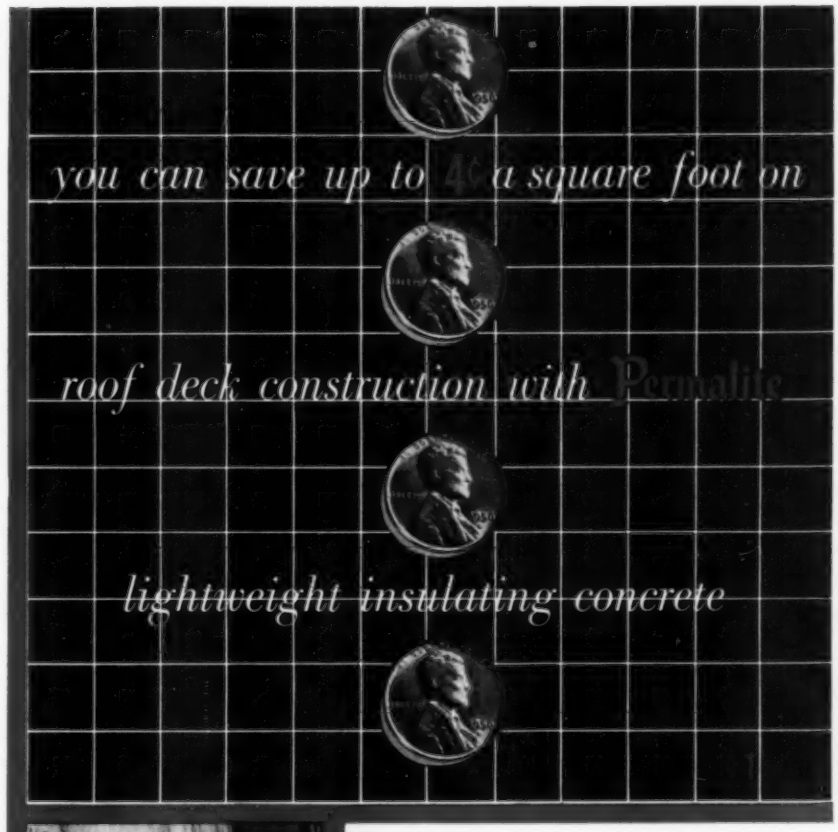
VIRGINIA
virginia perlite corporation, p. o. box 687, hopewell, virginia—telephone: cedar 9-4172 and cedar 9-2676

WISCONSIN
badger lightweight products corporation, 3101 west mill road, milwaukee 9, wisconsin telephone: flagstone 1-9050

CANADA
western perlite company, ltd., 101 mobil oil building, calgary, alberta, canada telephone: 2-7722

perlite products, ltd., 500 raleigh street, winnipeg, manitoba, canada—telephone: 50-2521

perlite industries, reg'd., 500 canal bank, ville st. pierre, quebec, canada—telephone: walnut 7098



And that 4¢ a square foot may not be the top ... we have reports of still greater savings in some special cases.

Permalite lightweight insulating concrete, used in open-web roof deck construction, saves both construction time and material costs, since it allows lighter roof joists, spaced more widely, than do conventional construction methods. And it gives a roof deck of ample strength ... roofing contractors have no hesitation in laying 20-year-bonded roofs on Permalite lightweight concrete roof decks.

Permalite lightweight insulating concrete provides such excellent insulating properties that many industrial buildings gain a completely satisfactory "U" factor *without a ceiling!* Permalite roof decks have been poured with a "U" factor as low as .091 for the completed roof deck, although such a very low rating is the exception.

Now hear this! Everything you need to know to specify Permalite lightweight insulating concrete roof decks has been spelled out for you, complete, in the Permalite Roof Deck Manual. Complete, reliable data gives you full engineering information in ready-to-use form ... many types of roof forms and ceilings, with full tables on appropriate slab thicknesses, weights, strengths, and "U" factors with and without ceilings.

This manual, which will save you many hours of calculations on every job, is available from the Permalite franchisee nearest you. He is listed in the column on the left—write or phone him now!

PERLITE DIVISION, GREAT LAKES CARBON CORP.

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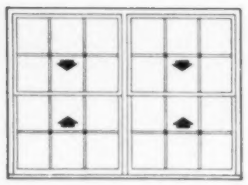
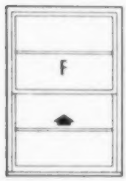
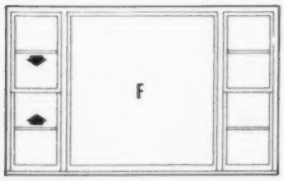
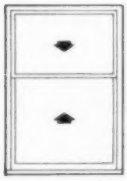
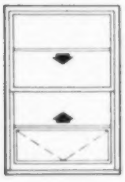
POMEROY ALUMINUM WINDOWS TO BE FEATURED NEXT MONTH



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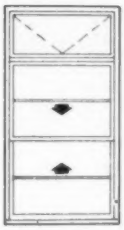
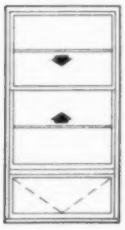
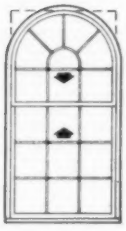
ASSO. ARCHITECT: James A. Nolen, Jr.
BUILDER: John McShain, Inc.

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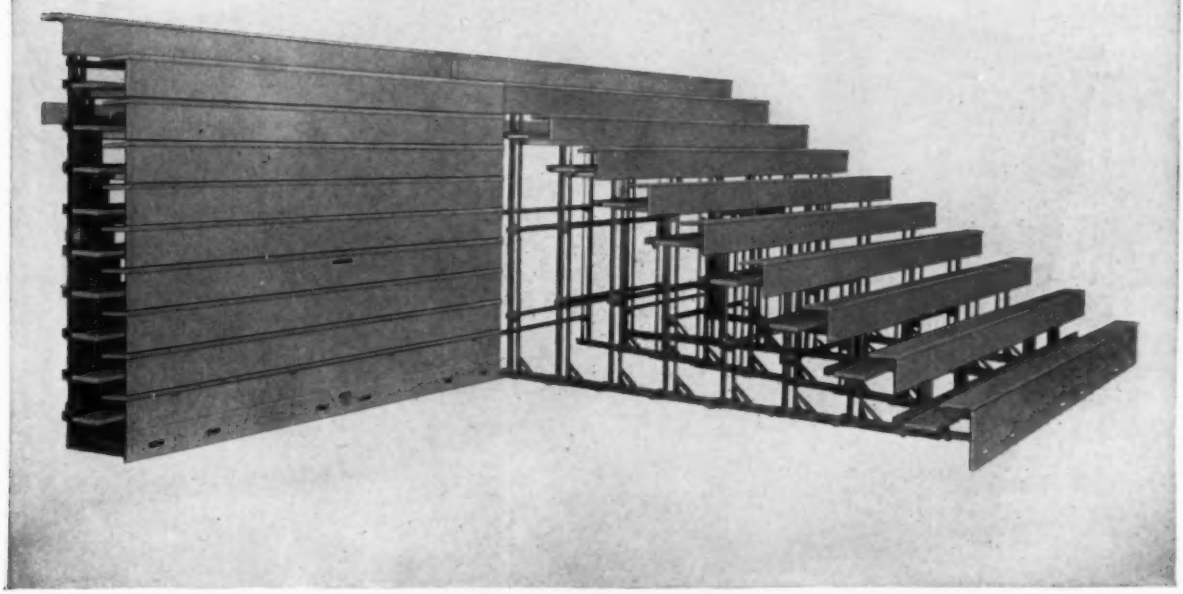
FABRICATION IN ALUMINUM—STAINLESS STEEL and COATED STEEL

ALL THE FEATURES
you want in gym seating!



Name the factors *you* consider the most important in gym seats . . . Safety and strong construction?—Roomy seating capacity?—Maximum visibility?—Comfort?—Ease of operation?—Accessibility for cleaning and maintenance?—Lowest upkeep? Whatever feature tops your list of "musts", critical comparison will prove the superiority of Medart Telescopic Gym Seats.

Medart's stronger, self-supporting, free-standing steel understructure **does not** depend on oblique bracing, springs, wall supports or wood members to support over 400 pounds per linear foot per row. Instead, seats, footboards and risers provide *extra* strength and rigidity.

Each row is supported on twin angle *vertical* uprights—4 of them to each 16-foot row—that place the seated load on the floor, not the wall.

To suit every seating and seeing requirement, Medart Seats are built with either 22″ or 24″ spacing between rows, and with 10½″ or 11½″ row rise. Several extra inches of toe and heel room make them roomier, more comfortable.

These, and many other advantages explain why Medart Seat installations far outnumber all others. Get *All* the facts... ***Write today for Complete Catalog.***

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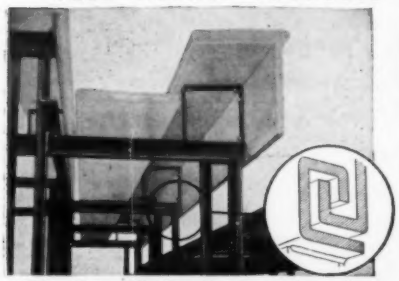
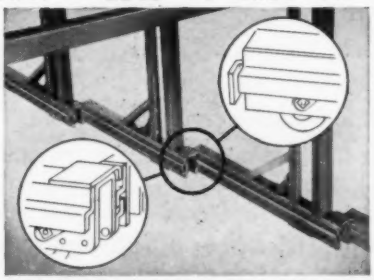
TELESCOPIC GYM SEATS

***SPECIFY** the best, then **INSIST** on it!*

FRED MEDART PRODUCTS INC. • 3540 DE KALB ST. • ST. LOUIS 18, MISSOURI



"Floating Motion" operation. Interlocked telescoping arms and supporting members float in and out with amazing ease, prevent binding, assure true alignment. Medart Seats are easiest of all to operate.



"Dual Align" roller housings are interlocked for straight line trackage during opening and closing. Non-marring rollers retract under load; place upright load directly on floor.

Safer Weight Distribution, maximum resistance to sway, greater strength and ultimate compactness is obtained by staggering the 4 vertical uprights under each row.

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concealed • in • floor closers

2 WAY safe control for double acting interior doors

Push the door either way—the return to closed position is gentle and quiet, making two-way door traffic safer and more rapid. RIXSON Duo-checks are especially desirable for doors where busy people pass through with loaded arms . . . carrying trays, pushing wheeled carts, etc. Where specified, a hold-open is built in that automatically holds the door when pushed open to 90° on either the right or left swing or both. A gentle push or pull releases the hold-open.

completely invisible . . . RIXSON Duo-checks are concealed in the rigid floor. The door is pivotal hung with no unsightly arm, mechanism or hinges exposed to gather dust or dirt.

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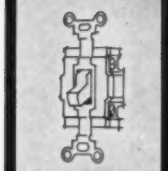
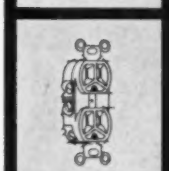
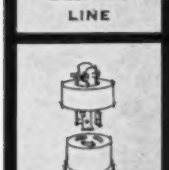
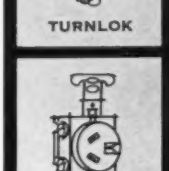

AC SWITCHES

DUPLEX OUTLETS


GROUNDING OUTLETS

DESPARD LINE


TURNLOK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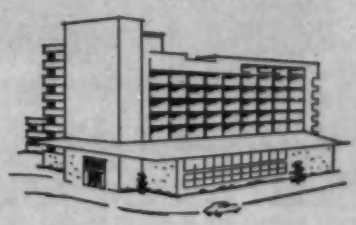

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QUIET AIR CONDITIONING is especially desirable in hospitals and rest homes. In addition, patients can choose their own degree of comfort.

DETROIT STATLER HOTEL recently installed its first group of AIRditioners.

Modine AIRditioners are the quiet, fingertip answer to year-round comfort

A TURN of the dial . . . and Modine AIRditioners deliver the desired air-conditioned comfort—quietly, instantly, smoothly. This fingertip control provides personalized air conditioning for hotels, office buildings, apartments, hospitals, motels. AIRditioners assure initial economy, performance and style in new buildings. And they're ideal for remodeling existing ones . . . replacing unsightly radiators with attractive heating-cooling units.

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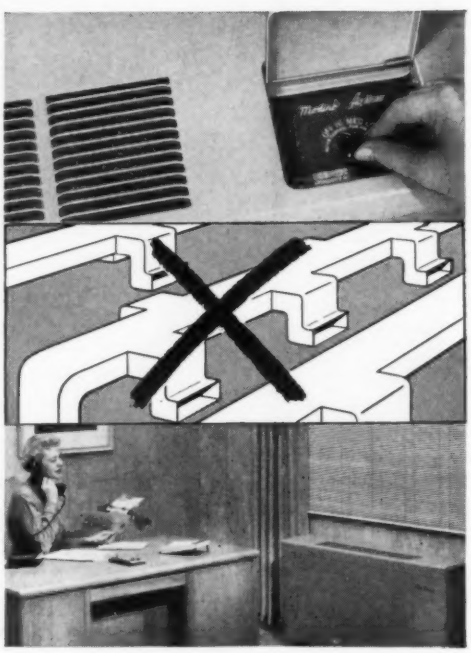
NO DUCT WORK is needed. AIRditioners use same piping for water supply and return, plus drain . . . cost less to install.

A CHOICE of four enclosure types in capacities from 2/3 to 2 tons.



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For price lists and detailed information call your dealer or write
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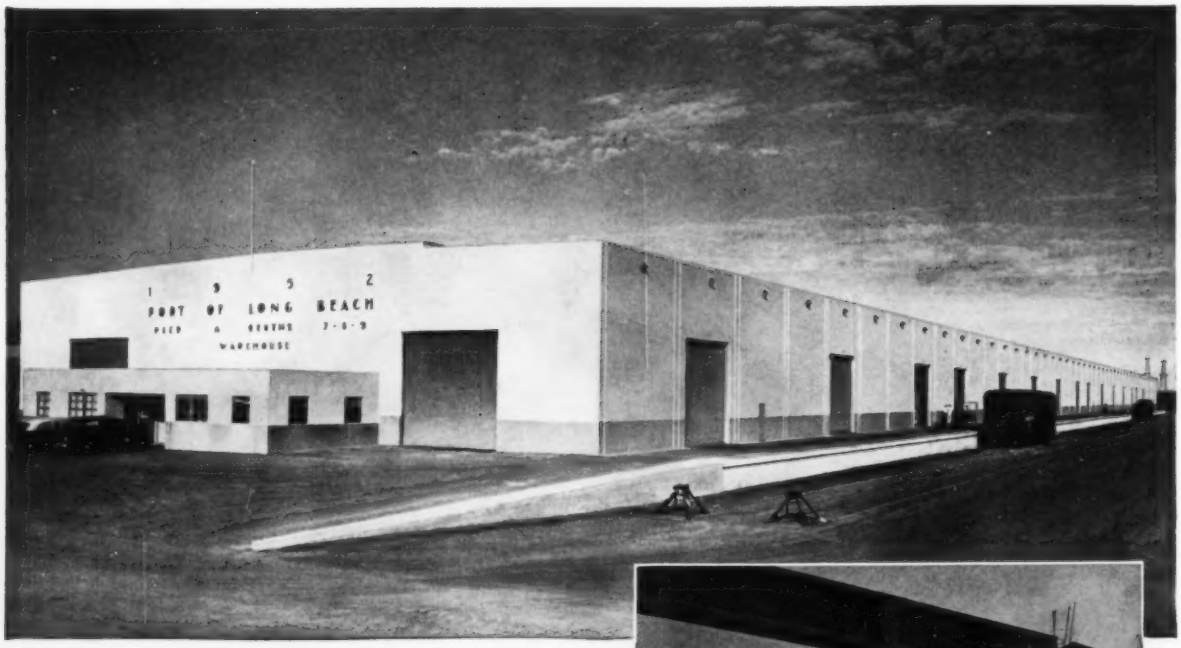


Precast and Prestressed Concrete Reduce Construction Costs

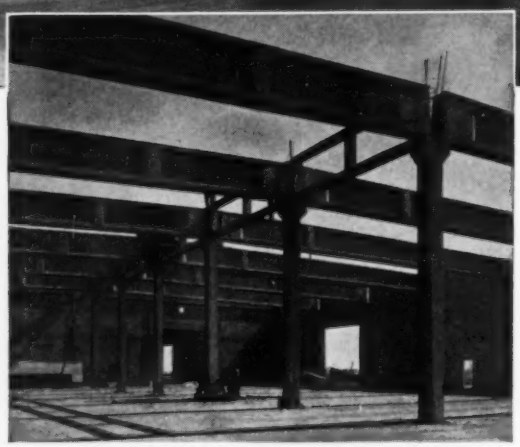
The above photo shows the "Cotton Warehouse" owned by the Port of Long Beach, Calif. It is 150 ft. wide and 1200 ft. long and has precast concrete walls, frame and roof and precast, prestressed concrete roof girders that span 75 ft. from the outside walls to a single row of interior columns down the center of the building.

This structure is an example of the savings that result from the use of precast and prestressed concrete construction. A substantial reduction in construction time resulted from (1) starting the precasting operations at the same time that the foundation work was begun, (2) re-using the formwork frequently and (3) casting the structural units horizontally at a convenient height for the workmen. This plan allowed the workers to repeat the same operations many times. Better craftsmanship and higher quality concrete were the result.

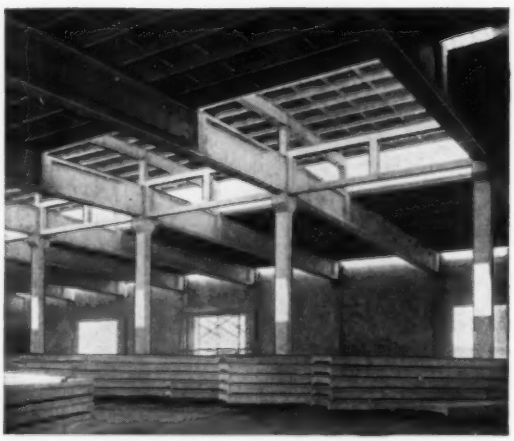
Structures using precast and prestressed concrete units have all the advantages of conventional concrete construction. They can be designed and built to conform with all applicable building codes—anywhere. And they meet all structural requirements of great strength and durability, resistance to severe weathering, long life and ***low-annual-cost*** service. In addition, they can be built to withstand violent lateral forces caused by earthquakes, hurricanes or atomic blasts.

For additional information about precast or prestressed concrete construction write for free illustrated literature. It is distributed only in the United States and Canada.

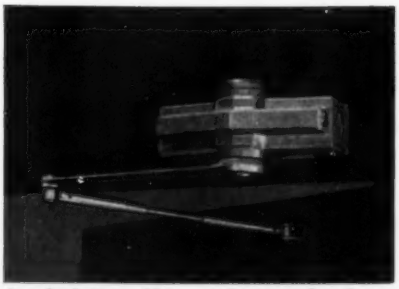
PORTLAND CEMENT ASSOCIATION
Dept. A2-8, 33 W. Grand Avenue, Chicago 10, Illinois
A national organization to improve and extend the uses of portland cement and concrete . . . through scientific research and engineering field work



Top photo: general view of warehouse at Long Beach, Calif. Exterior longitudinal walls are precast concrete panels 30-ft. high, 23-ft. wide and 6 in. to 8 in. thick. Photo above shows 56 in. deep, I-shaped girders supported on cast-in-place wall columns and precast interior columns. Span of the precast girders is 75 ft.

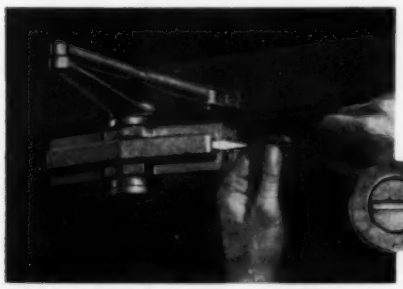


Roof constructed of precast concrete channel slabs resting on prestressed girders and precast monitor frames. Warehouse designed by the office of the late J. H. Davies, consulting structural engineer. Structural engineer was James R. Bole of Long Beach, Calif. Contractor was Johnson-Western Constructors of San Pedro, Calif.



Completely Reversible . . . can be mounted on the top jamb for maximum headroom on out-swinging doors.

Installation is Quick, Easy . . . can be installed in less than half the time of other surface-type closers.

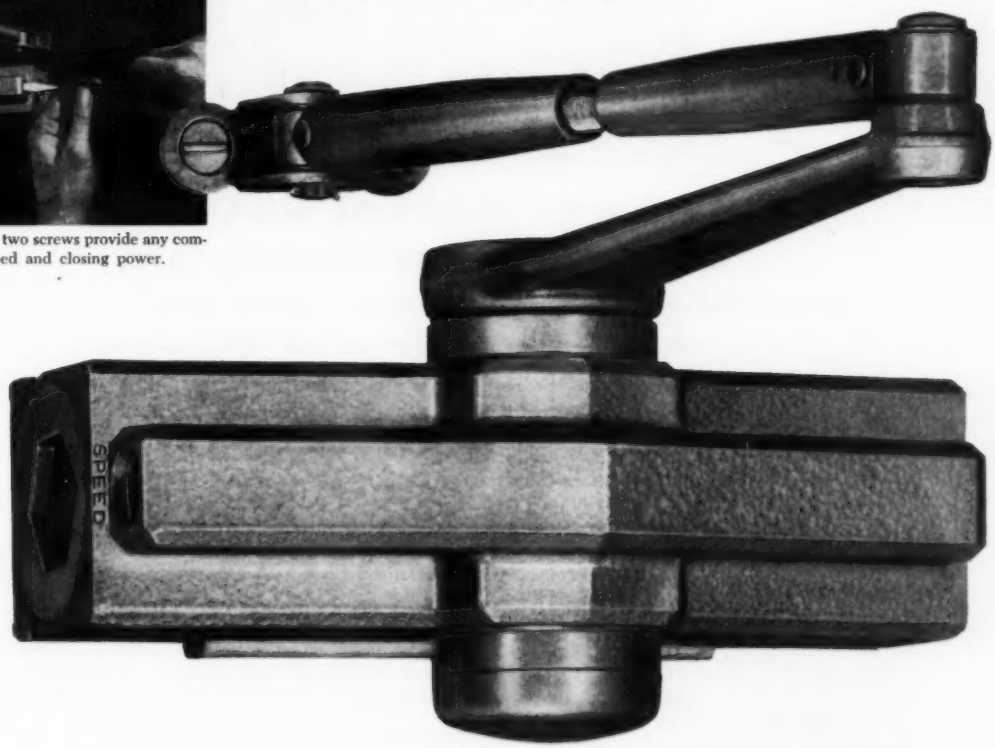


Adjustment is Simple . . . two screws provide any combination of swinging speed and closing power.

modern door closer beauty

Designed and styled to match today's architectural trends, Schlage door closers reflect the clean lines of modern interiors. For the first time, you can furnish your clients with the maintenance convenience and functional superiority of surface-type closers . . . and at the same time be assured that the appearance will complement the building design. As advanced in mechanical precision as it is in external design, the Schlage door closer provides complete control throughout the entire door swing by a full rack and pinion mechanism . . . teeth are pitched for greatest strength and are sufficient to permit 230° shaft rotation. In both appearance and function, Schlage door closers meet the building requirements of contemporary architecture.

For complete information about Schlage's Modern Door Closers, write for Catalog #680-A-2.



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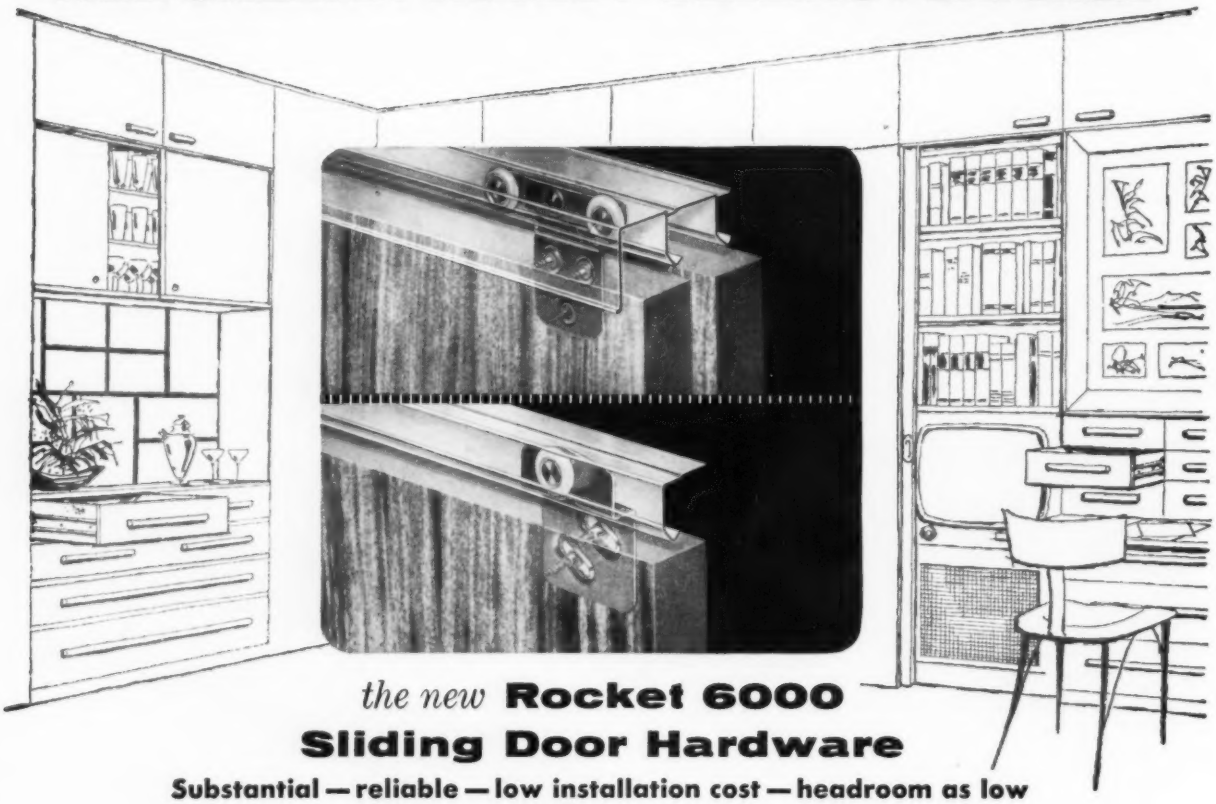
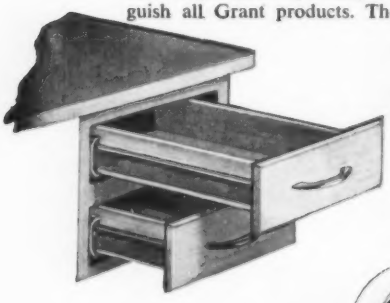


the new Rocket 6000 Sliding Door Hardware

Substantial — reliable — low installation cost — headroom as low as 1⅛"—reversible for ¾" or 1⅜" doors

Grant Rocket 6000 is designed to make available many of the most important features of the finest sliding door hardware at a moderate price range. Specialized engineering staffs and manufacturing facilities have given this popular new line the durable, dependable operating qualities that distinguish all Grant products. The installed cost of Rocket 6000 hardware is the last cost. Rocket 6000 features—both single and double wheel types of carriers—self-lubricating nylon wheels—¼" vertical adjustment without removing attachment screws—carries all standard thickness doors (¾" to 1¾")—track design prevents jumping. Write for detailed specification sheet.



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The low installed cost of the 300 slide is within practical range of competitive builders and designers of moderate-cost apartment, commercial and institutional construction. Nylon rollers—smooth, quiet, durable.

Only ½" space required at sides of drawer. Simple stop.

Full data, suggested applications in specification book—ask for a copy.

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puzzlement

What happened to the hole in Lewin-Mathes Tube?

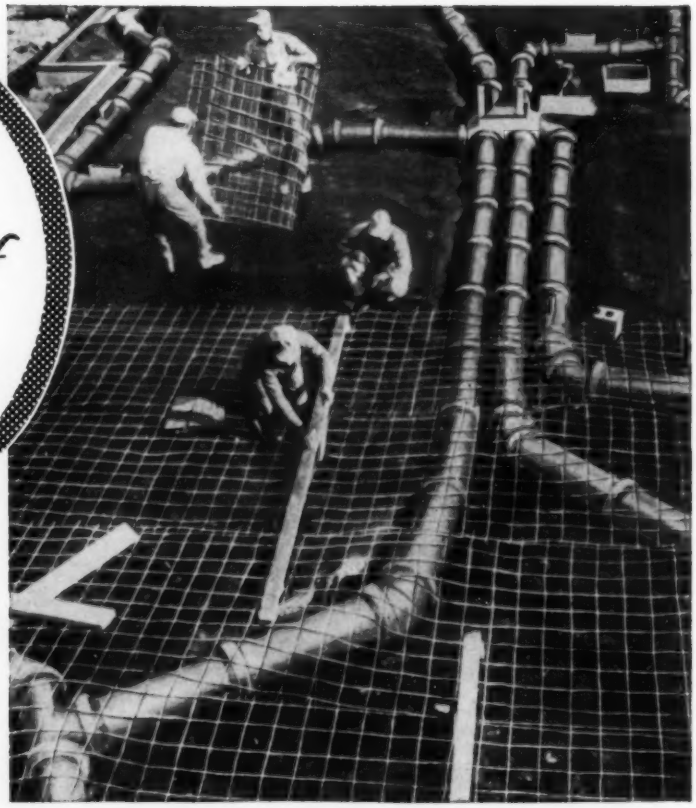
It's been eliminated in *part* of our production . . . so that users of Brass Rod can now enjoy the same standard of quality and service which has been responsible for the popularity of Lewin-Mathes Copper and Brass Tube and Pipe during the past 25 years.

In designing America's most modern Brass Rod mill, Lewin-Mathes has pioneered new automatic production and testing methods . . . adding even greater efficiency to our already *completely integrated* plant.

Now more than ever, specifying uniformly perfect Tube, Pipe and Rod is no puzzlement. Simply remember Lewin-Mathes—the *integrated specialist!*

LEWIN MATHES
SAINT LOUIS, MISSOURI
MANUFACTURERS OF
COPPER AND BRASS TUBE, PIPE AND ROD

The **MAGIC** *Sales Appeal of* **AIR CONDITIONING**



COSTS LESS

When you specify Clay Pipe Ducts

Air-conditioned homes sell faster.

That's the verdict wherever built-in air conditioning is being featured as part of the residential "package."

Cost is an important factor, of course, so the wise choice is an underfloor duct system of Clay Pipe to serve both the air-conditioning and heating systems.

Clay Pipe ducts are cast right in the floor slab, at minimum material and labor cost. Clay Pipe can't float, so it doesn't need anchoring. No special skills are required for installation, and the first cost is the last, since Clay Pipe is completely rust, rot and corrosion-proof. Its rodent-proof, vermin-proof, smooth inner surface doesn't collect soot or flake off, so it's equally efficient for carrying heated or cooled air.

To give *your* homes new sales appeal in today's tightening market, give them built-in air conditioning—and for the best system, at lowest cost, specify underfloor ducts of clean, odorless, never-wear-out Clay Pipe.

THE PUBLIC *KNOWS* CLAY PIPE IS BEST

Vitrified CLAY PIPE — CLAY PIPE NEVER WEARS OUT!

NATIONAL CLAY PIPE MANUFACTURERS, INC.
1820 N. Street, N.W., Washington 6, D.C.
206 Connally Bldg., Atlanta 3, Ga.
100 N. LaSalle St., Rm. 2100, Chicago 2, Ill.
703 Ninth & Hill Bldg., Los Angeles 15, Calif.
311 High Long Bldg., 5 E. Long St., Columbus 15, Ohio

C-357-4

Before you decide on Gymnasium Seating . . . *GET A BID FROM WAYNE*

Bakersfield (Cal.) High School
gave spectators complete safety with Wayne Rolling Gymstands
Clayton (Mo.) High School
made its handsome gymnasium even more attractive with Wayne Rolling Gymstands
Santa Fe (N.M.) High School
found initial economy and long service life with Wayne Rolling Gymstands
WAYNE
ROLLING GYMSTANDS
All new 1957 Rolling Gymstand Catalog
Write for it!

You get much more than a competitive price when you invite Wayne to bid. For no other gymnasium seating—at any price—gives you so much for your money—in engineering—appearance—performance. For example . . . Exclusive Rotating Alignment Frames keep rows constantly parallel, assures smooth, easy opening and closing with no jamming. Select woods, fine finishing and a completely vertical front when closed provide a handsome appearance. Closed Riser Board Construction keeps spectators safe and secure, conceals framework from view and adds to the attractiveness when stands are open. And, sightline design gives each spectator a full view of the playing floor. No other maker has pioneered as many engineered advances as Wayne.

FOR NEW CATALOG 57, SALES OR SERVICE WRITE:

WAYNE

Wayne Iron Works— 148 N. Pembroke Ave., Wayne, Penna.

ROLLING GYMSTANDS • FOLDING PARTITIONS • OUTDOOR GRANDSTANDS

VISIT WAYNE AT A.A.S.A. – ATLANTIC CITY – FEB. 15 TO 20 – BOOTH NUMBERS H-1-3-5

Jet engine test cell . . . inner and outer double Jamison Sound Reduction Doors

Let Jamison Sound Reduction Doors squeeze the decibels out of those big noises

Look at it this way: You've got to have real stopping power to muffle the thunderous roar pouring out of a jet engine test cell, or a turbo prop engine or a reciprocating engine. For fifteen years Jamison Sound Reduction Doors have been toning down these big uproars —effectively, economically.

Jamison Sound Reduction Door used for access to control room

Jamison "Mass Principle" Construction

Long ago Jamison found out that the main factor in minimizing sound transmission through a structure is weight per unit area. And this is the principle Jamison has applied in successfully designing and building Sound Reduction Doors.

If noise is your big headache—and is giving pain to lots of others—it will pay you to investigate Jamison S-R Doors. Depend on Jamison for authoritative, up-to-the-minute information that can help you toward an effective solution of your problem. Meanwhile write to Jamison for a copy of Bulletin SR 22.

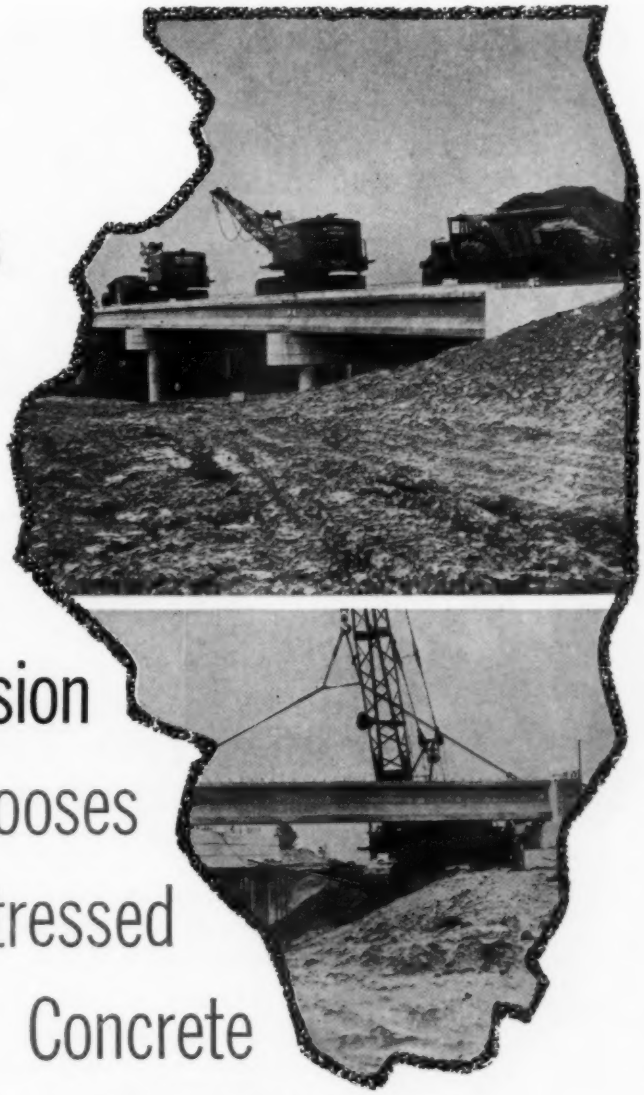
Jamison Cold Storage Door Company, Hagerstown, Md.

JAMISON

engineered doors

For 50 years the leading builder of cold storage doors

Illinois State Toll Highway Commission chooses Prestressed Concrete for 212 Bridges!



Overload test of Beverly Road Bridge. Four spans, continuous under live loads, center to center of piers measured along center line of girders are: 42'-10"; 70'-5"; 70'-5"; 42'-10". Skew is 20°. Precast prestressed I-section girders—without intermediate diaphragms—are 48" deep and placed 7'-6" center to center. Precast, pretensioned 2½" deck slabs were placed on the girders with a 5" slab poured on top. Intermediate piers are 36" diameter prestressed hollow piles with 4" walls.

Girders and 2½" slabs for the test bridge made by Prestressed Concrete Structures of Frankfort, Illinois, using Roebling 7-wire stress-relieved strands.

Placing 42'-10" span girder on Beverly Road Bridge.

Write for your free copy of Roebling's 16-page booklet, "Tensioning Materials for Prestressed Concrete."

This choice is the result of exhaustive research together with testing of the continuous type of prestressed structure which was adopted. Initial cost, efficiency, delivery and maintenance were factors that governed the final choice... and each was more successfully met by prestressed concrete than any other type of bridge.

The initial cost of the prestressed concrete design is appreciably lower than with existing alternate designs and materials.

Dynamic tests on the Beverly Road Bridge proved conclusively that the prestressed method means less vibration and deflection under high-speed traffic – two factors which are cause for increasing complaints on other types of bridges.

The faster delivery (first bridge will be delivered about 5 months after bidding) will reduce cost of other construction operations because these bridges can be used for access to uncompleted highway sections. Highway can begin collecting tolls on completed sections sooner.

Prestressed concrete requires no painting – repair and maintenance costs are less. The 212 bridges in the Northern Illinois Toll Highway will have a total of 6300 prestressed girders varying in length from 40 to 90 ft. Bridges are designed by Joseph K. Knoerle and Associates, Inc., Baltimore, Maryland.

For data on tensioning elements, casting yards, fabrication methods, design procedures and other prestressed concrete information, write Construction Materials Division, John A. Roebling's Sons Corporation. Trenton 2, New Jersey.

ROEBLING

Sales Offices in Principal Cities

Subsidiary of The Colorado Fuel and Iron Corporation

ONE QUALITY

NO "COMPETITIVE" LINES
NO "ECONOMY" LINES
NO "COMPANION" LINES

A Panic Exit Device is your assurance of safe exit at all times . . . for normal day by day operation . . . for emergency in time of panic.

We believe there can be only one quality . . . the finest . . . where life depends on safe, quick exit. We have no "companion," no second best lines.

It is more than a coincidence that Sargent & Greenleaf panic devices are specified by those who have confidence in a company that gives full dollar value in just one fine quality.

Add to this the advantages of Sargent & Greenleaf's new UNI-TRIM and you have the finest panic device made . . . anywhere.

"Feather Touch"®

FINE SECURITY PRODUCTS SINCE 1857

PANIC EXIT DEVICES

MANUFACTURED BY
SARGENT & GREENLEAF INC. ROCHESTER 21, N. Y.

Summitville Tiles Inc.

SUMMITVILLE ■ OHIO

QUARRY TILE

Available in 6 beautiful earth colors that match or compliment any color scheme or style of architecture.

Summitville

GENUINE CERAMIC TILES

UNEQUALLED FOR BEAUTY, DURABILITY, VERSATILITY

GLAZED QUARRY TILE

Available in 9 standard colors in both wall and floor type glazes. For interior and exterior use.

12veneer

The sensational new large unit ceramic tile. These 12" x 12" x 3/8" tile are available in 9 standard colors. Special colors on order.

Summitville's new line of glazed quarry tile, colored quarries and 12-veneer offers whole new concepts in the field of design and color.

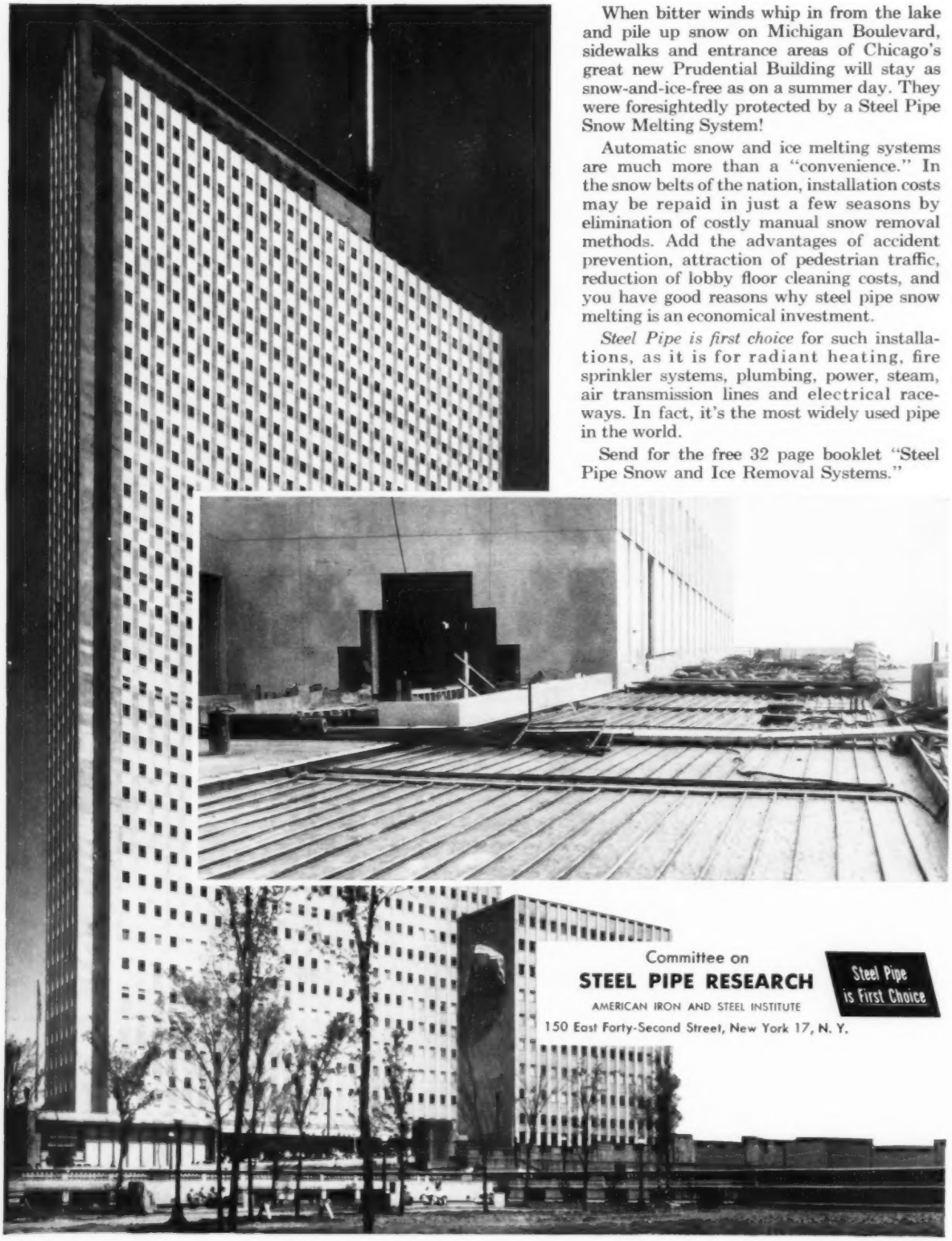
Here are genuine ceramic tile unequalled by any other product for wearing ability, color selection and economical maintenance for floors and walls.

You can get the full story and samples by contacting your Summitville representative, ceramic tile contractor, or write direct.

SUMMITVILLE TILES, INC., SUMMITVILLE, OHIO

Member: Tile Council of America

PRUDENTIAL INSURES SNOWLESS SIDEWALKS WITH A STEEL PIPE MELTING SYSTEM



When bitter winds whip in from the lake and pile up snow on Michigan Boulevard, sidewalks and entrance areas of Chicago's great new Prudential Building will stay as snow-and-ice-free as on a summer day. They were foresightedly protected by a Steel Pipe Snow Melting System!

Automatic snow and ice melting systems are much more than a "convenience." In the snow belts of the nation, installation costs may be repaid in just a few seasons by elimination of costly manual snow removal methods. Add the advantages of accident prevention, attraction of pedestrian traffic, reduction of lobby floor cleaning costs, and you have good reasons why steel pipe snow melting is an economical investment.

Steel Pipe is first choice for such installations, as it is for radiant heating, fire sprinkler systems, plumbing, power, steam, air transmission lines and electrical raceways. In fact, it's the most widely used pipe in the world.

Send for the free 32 page booklet "Steel Pipe Snow and Ice Removal Systems."

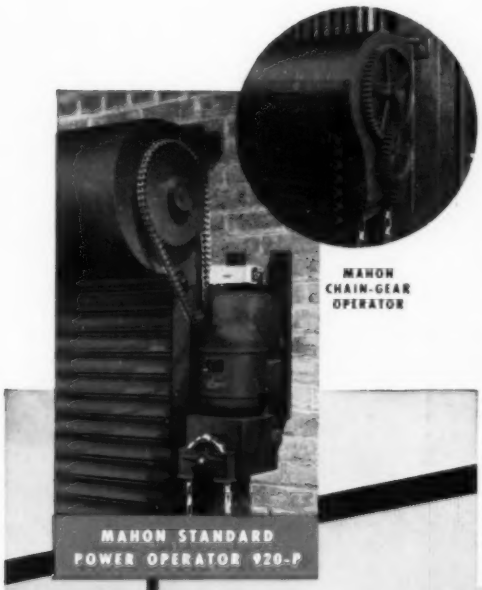
Committee on
STEEL PIPE RESEARCH
AMERICAN IRON AND STEEL INSTITUTE
150 East Forty-Second Street, New York 17, N. Y.

Steel Pipe is First Choice

Rolling Steel Doors

Manually, Mechanically, or Electrically Operated

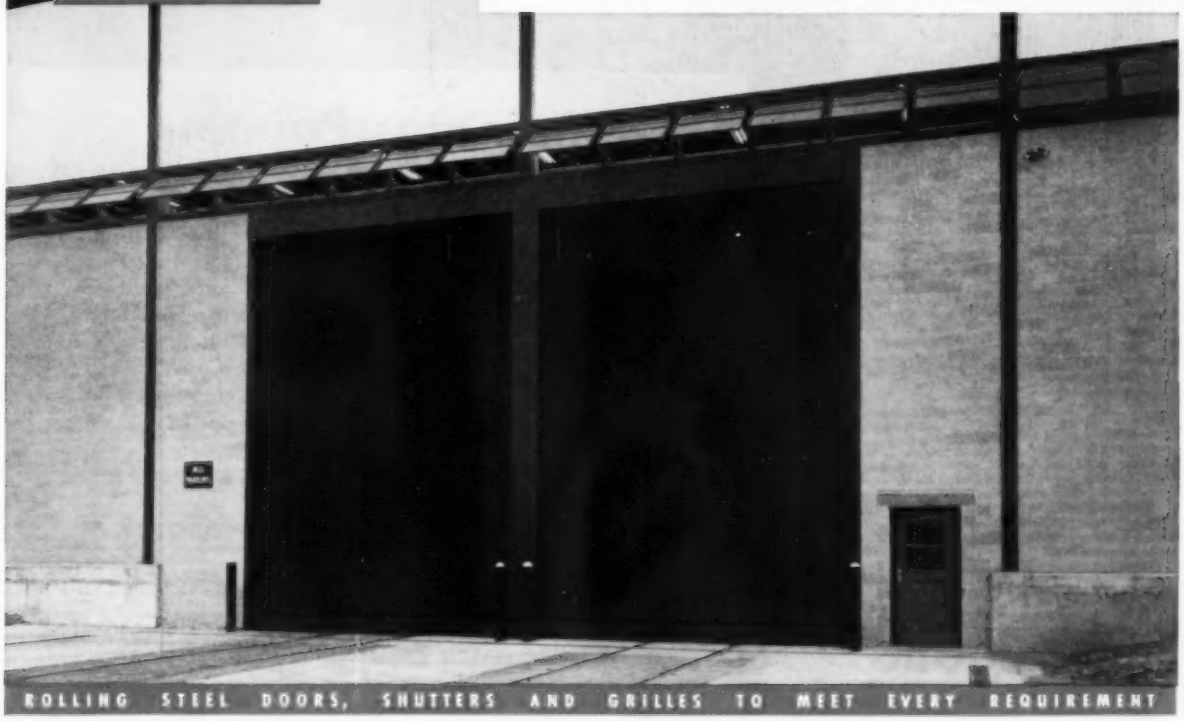
In railroad and truck openings in industrial and commercial buildings, rolling steel doors offer definite timesaving and space-saving advantages . . . the vertical roll-up action of the door requires no usable space either inside or outside the opening—the rolling door curtain is compactly rolled up over the lintel safe from damage when the door is open; and, there are no overhead tracks or other obstructions to interfere with crane handling. No other type of door can give you the everyday operating convenience of a quick-opening, quick-closing power operated rolling steel door—signal arrangements and push-button stations can be located at any point for remote control. And no other type of door can give you the positive security, firesafety and permanence provided by a good rolling steel door . . . all-metal construction reduces maintenance to a negligible factor, and assures a lifetime of trouble-free service. When you buy a rolling steel door, it will pay you to check specifications carefully . . . you'll find Mahon doors are built better to give you better service over a longer period of time—for instance, the galvanized material in Mahon curtain slats is BONDERIZED and DIP-COATED with synthetic enamel which is baked on at 350° F. prior to roll-forming. Comparison will disclose other quality and design features in Mahon Rolling Steel Doors that add up to a greater over-all value. See Sweet's Files for information including Specifications, or write for Catalog G-57.



THE R. C. MAHON COMPANY • Detroit 34, Michigan

Sales-Engineering Offices in Detroit, New York and Chicago • Representatives in Principal Cities

Manufacturers of Rolling Steel Doors, Grilles, and Automatic Underwriters' Labeled Rolling Steel Fire Doors and Fire Shutters; Insulated Metal Curtain Walls and Wall Panels; Electrified M-Floors, Steel Roof Decks and Long Span M-Decks; Permanent Floor Forms; and Acoustical and Troffer Forms.



ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

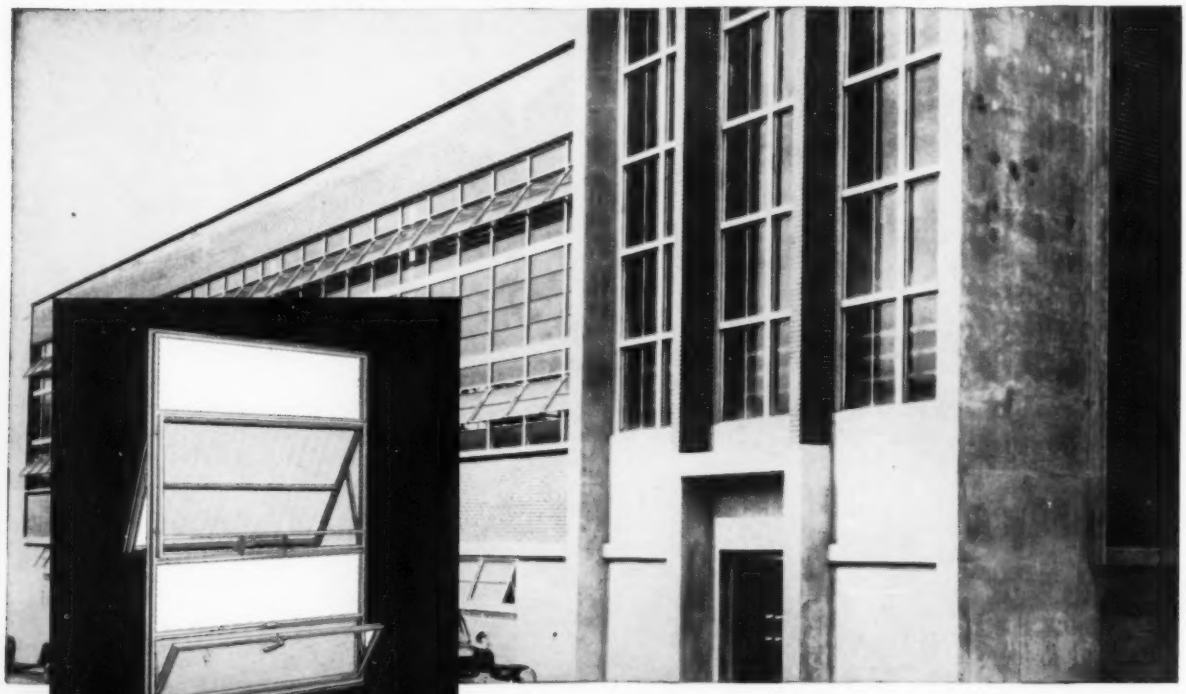
Two Mahon Power Operated Rolling Steel Doors 17'-2" x 23'-0" installed in two railroad openings in Udylite Corporation's new plant in Detroit, Mich. O'Dell, Hewlett & Luckenbach, Architects. Barton-Malow Co., General Contractors.

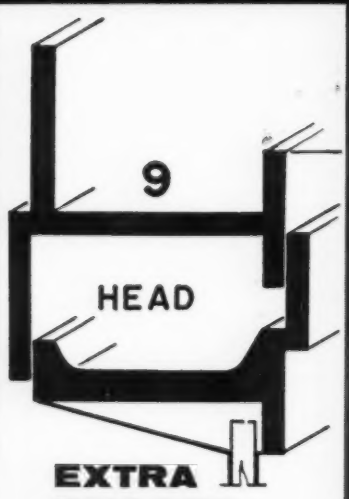
MAHON

Modern Industrial Buildings Call for The Low Upkeep of

BAYLEY

ALUMINUM PROJECTED WINDOWS





EXTRA RUGGED

This full size detail illustrates the rugged, deep sections that give Bayley Windows extra durability. Note deep wall engagement and double weathering contact of ventilators.

Eliminates Painting

and reduces other window maintenance

Today's rising costs demand that every possible cent be saved on building maintenance. Paint elimination of aluminum construction is only one way Bayley Aluminum Projected Windows can cut these costs to the "bone". Their time-tested design offers—

- **Permanence coupled with modern appearance**
- **Simplicity of design—no complicated mechanism**
- **Rugged hardware—simple, apparent operation**
- **Complete and adaptable to all types of construction**
- **Ventilators easily operated—not affected by moisture**
- **Projected-out ventilator gives awning-type weather protection**
- **Projected-in ventilator provides no-draft ventilation**

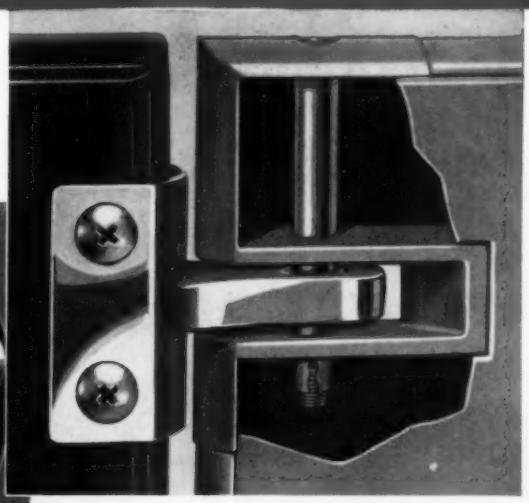
Years of window specialization qualify Bayley Engineers—backed by most modern manufacturing facilities—to render you most complete window service. Centralize responsibilities by calling Bayley to follow-through, from the very start of your building plans.

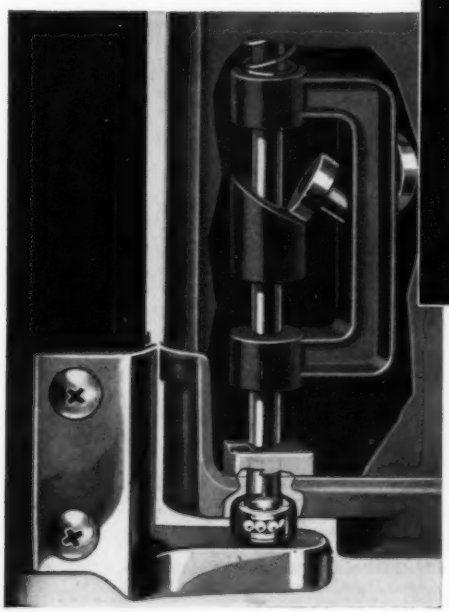
THE WILLIAM BAYLEY CO.

Springfield, Ohio

District Sales Offices: Springfield Chicago New York Washington

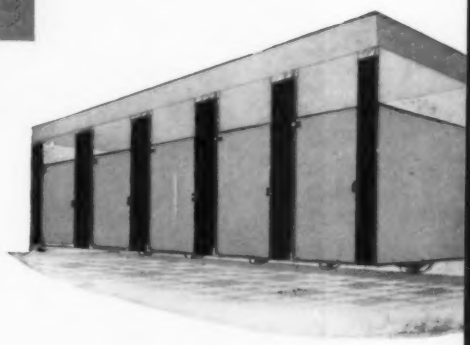
TOILET COMPARTMENT CONSTRUCTION THAT *Saves money for building owners*





The Sanymetal 7700 Clevis Type Top Hinge, designed for trouble-free operation—no maintenance expense.

The Sanymetal Concealed 7700 Bottom Hinge, bearings at all moving parts —simple door adjustment —permanent lubrication —no replacement ever.



NOW

with the famed Sanymetal Concealed 7700 Hinge the first cost is your last cost

SANYMETAL'S Concealed 7700 Hinge is a good example of how Sanymetal *improvements* save, from installation-day to the end of building life.

Since its introduction this hinge has been outstanding for design and economy. It is notable for— .

attractiveness . . . concealed within door

durability . . . wearing qualities proved by tests, made by independent laboratories, through 301,000 cycles of use

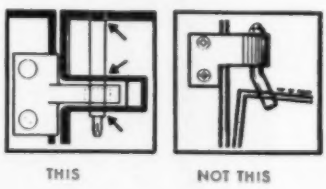
strength . . . so designed that a heavy man can swing on the door without harm to the hinge

engineering . . . the "clevis" principle noted at right

In addition to these facts, the 7700 Hinge is also more easily adjusted to position. Just loosen one adjusting nut, swing the door to the desired rest position, and tighten the nut—an easier and quicker adjustment that saves man hours.

This is typical of many features found in Sanymetal Toilet Compartments. Specify Sanymetal, to get attractiveness, trouble-free service, low installation and maintenance costs, which only quality materials properly tested and engineered can assure.

See Sweet's, or send for Catalog 93 describing all Sanymetal Compartments. If you wish we will mail you all advertisements in this series explaining construction details that mean quality.



THIS NOT THIS

RIGHT AND WRONG—TOP HINGE PRINCIPLE with 3 points of support is right—nothing to get out of line—permanently strong; the door does not rise or lower when it swings.

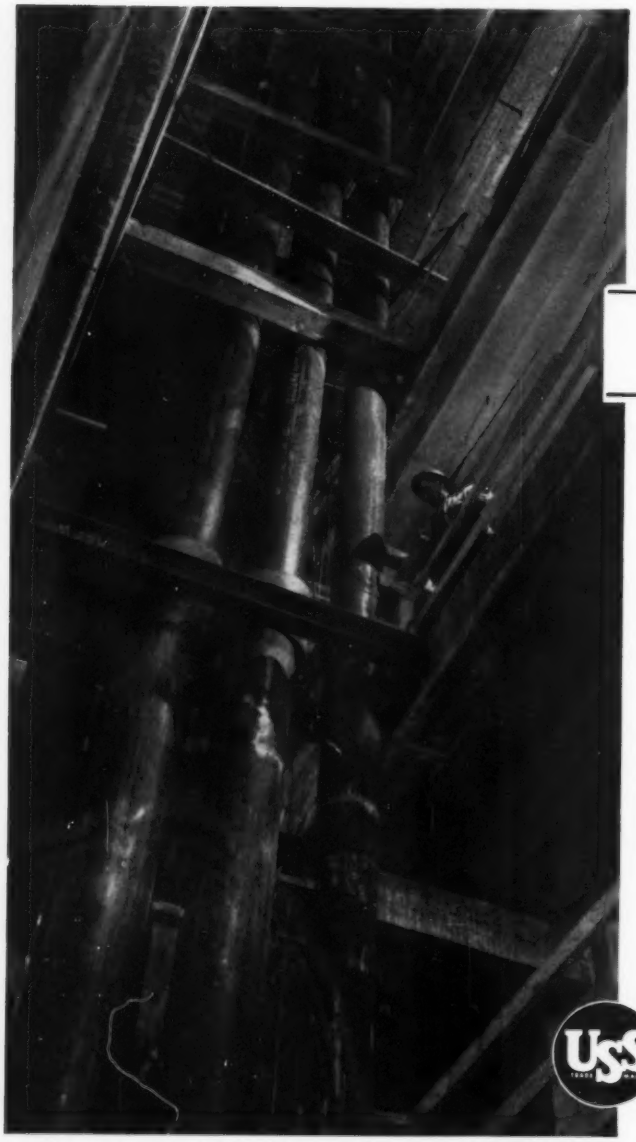
LOOK FOR THIS

NAMEPLATE WHICH IDENTIFIES EVERY SANYMETAL INSTALLATION

Sanymetal PRODUCTS COMPANY, INC.
1689 URBANA ROAD • CLEVELAND 12, OHIO
6433A East Canning St., Los Angeles 22, California

Get this long-life feature, STANDARD *on all Sanymetal Compartments*

Ingenious air-conditioning system of Socony-Mobil Building *makes liberal use of* NATIONAL PIPE



Owner: GALBREATH CORP., JOHN W. GALBREATH AND PETER B. RUFFIN
Architects: HARRISON & ABRAMOVITZ
Associated Architect: JOHN B. PETERKIN
General Contractor: TURNER CONSTRUCTION COMPANY
Mechanical Engineers: JAROS, BAUM & BOLLES

This gleaming, 45-story, stainless-steel-sheathed building is the largest air-conditioned office building structure ever erected. Its remarkable air-conditioning system is powered by purchased steam, which is actually used twice. In the basement there is a refrigeration plant, consisting of 3 centrifugal steam turbine driven compressors of 2600-ton capacity. These 3 units are driven by steam turbines operating full condensing, with the exception of one which is a partial condensing and exhaust. This exhaust steam, by means of a 10-inch steam main, is tied in with the building's steam distribution system. This 10-inch main serves, during summer operation, all the steam requirements for the tempering coils in the air-conditioning system, as well as the steam required for three 500 Lithium Bromide Absorption Machines. In other words, the three 500-ton units act as a surface condenser for the exhaust steam—the building enjoying the economics of this ingenious piping layout.

Approximately 470 tons of USS NATIONAL Pipe —most of it Seamless—were used in the construction of the air-conditioning and heating systems. And at least 350 tons of NATIONAL Seamless were used in the huge building's plumbing system.

As is so often the case in designing complex plumbing and heating systems, the engineers selected NATIONAL PIPE. They knew from past experience that, no matter how rigorous the conditions, NATIONAL would do the job, and do it well.

If you'd like more information on the use of NATIONAL PIPE in plumbing and heating, air-conditioning and power installations—large or small, simple or complex—get in touch with us. Our experienced engineering staff is at your service.

NATIONAL TUBE DIVISION, UNITED STATES STEEL CORPORATION, PITTSBURGH, PA.
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

NATIONAL PIPE

UNITED STATES STEEL

PERMATITE

STAINLESS STEEL REVERSIBLE WINDOWS

by GENERAL BRONZE CORPORATION

SELECTED FOR NEW CIT BUILDING

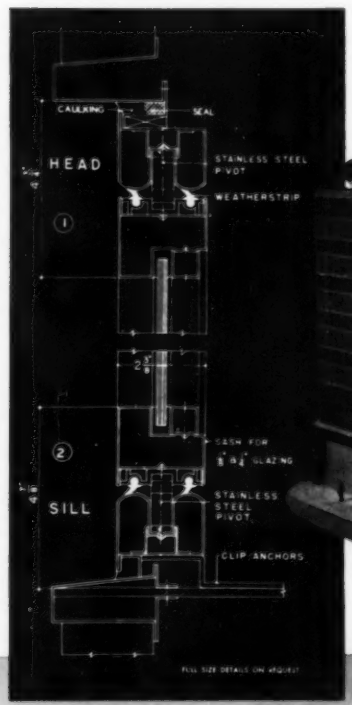
For those who want the finest quality windows for their new buildings, General Bronze offers a new fully reversible window in stainless steel.

Embodying all the engineering advancements and designing skill for which General Bronze has been famous for more than 45 years, this new window has been designed for today's modern, completely air conditioned building. Its double gasket completely around the window assures a positive air and watertight seal that prevents the loss of heated air in winter, cooled air in summer, resulting in economies in both heating and air conditioning.

Made from stainless steel, the window offers complete immunity to weathering effects. It resists rust and corrosion, is easy to clean with mere soap and water, and *never* requires painting or costly maintenance.

The window is fully reversible, rotating 360°. This permits washing both sides of the window from inside, thus reducing window washing costs. In a closed position the window is automatically locked and can only be opened by means of a special key.

For additional information on the General Bronze Reversible Window or other type windows in stainless steel, aluminum or bronze, or for information on GB curtain wall systems call in the General Bronze representative nearest you or write us direct. Our catalogs are filed in Sweet's.



CIT Building, New York, N. Y.
Architects: Harrison & Abramovitz
Contractor: George A. Fuller Co.

GENERAL BRONZE CORPORATION • GARDEN CITY, N. Y.

PERMATITE DIVISION—Custom-built Windows, Architectural Metal Work and Revolving Doors. ALWINTITE DIVISION—Stock-size Aluminum Windows
BRACH MFG CO DIVISION—Multel, T V., Radio and Electronic Equipment STEEL WELDMENTS, INC. DIVISION—Custom fabrication in steel and iron.

ANOTHER MACOMBER FIRST PRODUCES AN ALL COLD FORMED STRUCTURE THAT IS STRONGER,

FOR THE FIRST TIME IN THE HISTORY OF STEEL CONSTRUCTION — Macomber has made available cold formed framing members for every part of a structural frame.

These completely standardized framing members are ALL-INCLUSIVE. They represent advanced, improved engineering design to provide greater rigidity in a structural frame with members which are lighter and cost less.

If your organization designs or builds any type of commercial, institutional or recreational type of structures, the undisputed economy of the bowstring truss now places a new value on this Macomber achievement.

You will want the new V-BOWSTRING TRUSS CATALOG as close as your desk drawer to check loads and spans and a quotation through your nearest Macomber Representative.

See what 30 years of advanced structural engineering has done to lower construction costs and produce a better structural frame.

MACOMBER NOW PRODUCES

COLD FORMED

1. **V-BOWSTRING TRUSSES**
   FOR SPANS 50 TO 120 FEET
2. **V-GIRDERS**
   FOR SPANS 40 TO 76 FEET
3. **V-BEAMS**
   FOR SPANS 7 TO 48 FEET
4. **V-GIRTS (NAILABLE)**
   FOR ANY COLUMN SPACING
5. **V-EAVE STRUTS**
   FOR ANY COLUMN SPACING
6. **V-FLAT GATHERING TRUSSES**
   FOR SPANS 20 TO 60 FEET
7. **V-COLUMNS**
   FOR CLEAR HEIGHTS TO OVER 20 FEET

ALL FABRICATED FROM COLD FORMED STEEL SECTIONS

SEND FOR CATALOG

STANDARDIZED STEEL BUILDING PRODUCTS

MACOMBER INCORPORATED

CANTON 1, OHIO

• ENGINEERING • FABRICATING AND ERECTING •

NAILABLE V-BEAMS • V-GIRDERS • V-BOWSTRING TRUSSES • METAL DECK • V-LOK STEEL FRAMING • STEEL JOISTS

NEW

Underwriters Laboratories, Inc
INSPECTED
FIRE DOOR NO.
RATING 3 HR (A) TEMP RISE 30 MIN 250 F MAX

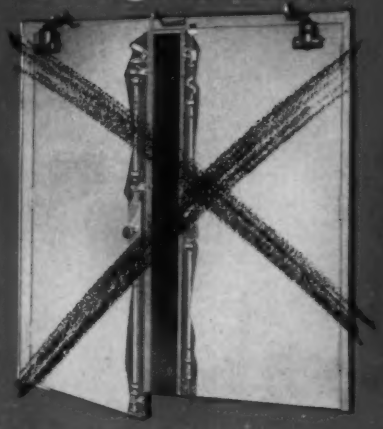
Most Radical Advancement
in over 50 Years
of Fireproof Door History!

UNDERWRITERS' LABORATORIES LABEL
Rating: 3 Hr. • CLASS A • Temp. Rise 30 Min. • 250°F. Max.
Requiring Only a Conventional Lock

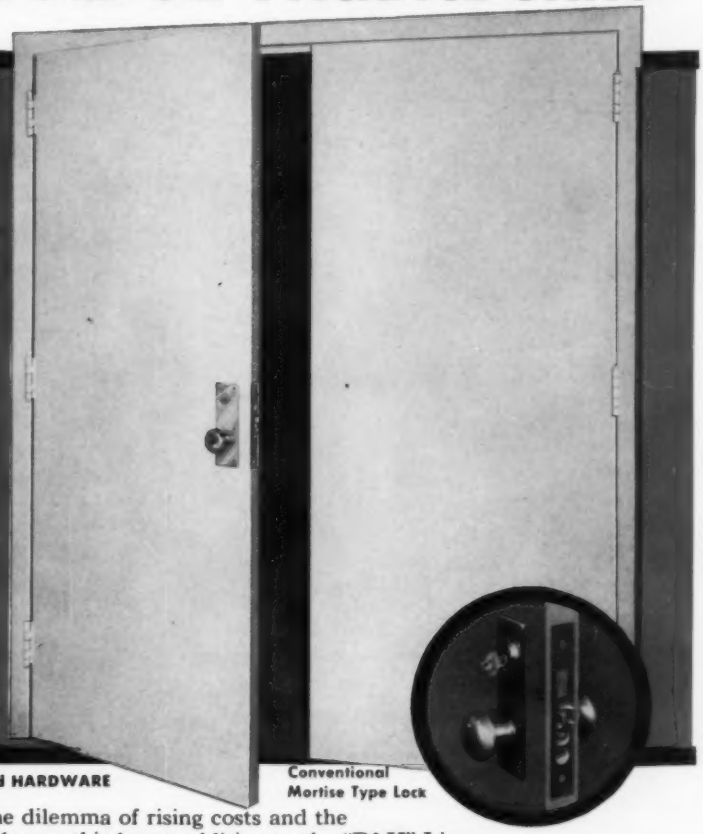
Another D&H First!

PyroDor® PACKAGE UNITS*

More Than 50% Savings in Cost...



over other fireproof doors requiring complicated and expensive 3-Point Locking Devices



*DOOR, FRAME and HARDWARE

Conventional Mortise Type Lock

- Architects and engineers, faced with the dilemma of rising costs and the extended delivery problem, will welcome this latest addition to the "D&H" Line . . . the Model "SA" PyroDor Package Unit. This unit now brings quality Class A — 3 Hr. Doors, with hardware, to a price level which fully justifies their use where previously they could not be considered. You can now afford maximum safety for any door opening where protection of life and property is of utmost importance.

Fully Approved for fire and curtain wall openings, transformer and switch gear rooms, narcotic and film storage vaults, boiler and heater rooms, openings to areas of high hazard or valuable contents . . . with guarantee of lowest insurance rates and meeting building code requirements as well.

Prompt shipment made from distributor's stock or factory warehouse. Contact nearest "D&H" distributor thru the Yellow Pages of your Telephone Directory. or write us requesting Bulletin SA 157.

D-H **DUSING and HUNT, Inc.** 61 LAKE ST. LEROY, N. Y.

Over 50 Years Manufacturing Fireproof Doors and Metal Trim

this one was really tough!

crafted by Overly

Architects: Lam Woo; Howard D. Smith; Harry F. Reichard, Columbus, Ohio

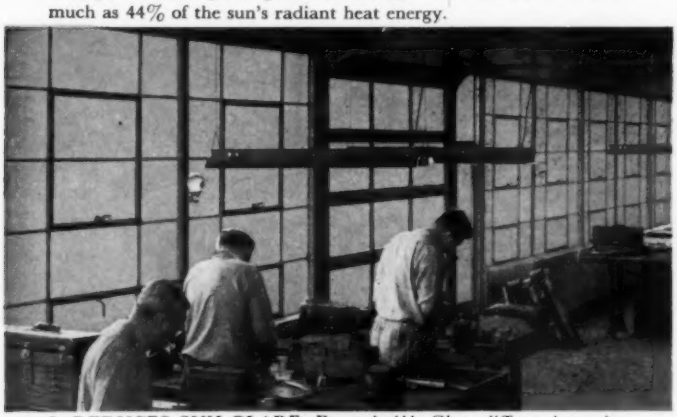
With the completion of this mammoth field house group, seating 15,000 in the Arena and 3,000 in the Indoor Practice Building, Ohio State University's indoor sports facilities rate with finest in nation. • 1,273 squares of Overly Type B aluminum batten roofing were applied over a metal deck insulated with 2" of rigid insulation sandwiched between two layers of 30 lb. felt. Roof assembly has a U factor of .151. • Arena roof presented extremely difficult mechanical and layout problems; four barrel-shaped roofs meet at a center point, with a 22' wide valley between, forming a groin vault construction. Everything had to be pattern cut. No true curves could be used, since each barrel slopes to a low point at front of each arch. • This is Overly's fifth field house roofing project—including three State Universities—testimony enough to the performance of Overly's economical, permanently weatherproof, guaranteed roofing systems. • Write today for our new catalog 8b-Ov with "streamlined specifications."

OVERLY MANUFACTURING COMPANY
GREENSBURG, PENNSYLVANIA
LOS ANGELES 39, CALIFORNIA

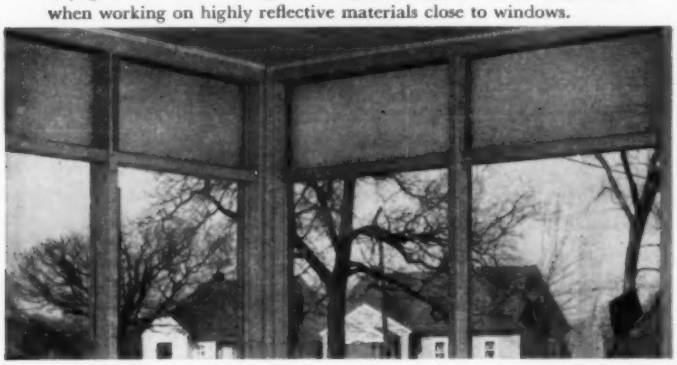
3 ways Aklo® glass gives you

Window Design Freedom

1. REDUCES SUN HEAT. Rooms are cooler with daylight filtered through this blue-green glass because ¼" *Aklo* Glass shuts out as much as 44% of the sun's radiant heat energy.



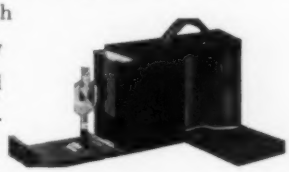
2. REDUCES SUN GLARE. Frosted *Aklo* Glass diffuses incoming daylight, thus diminishing "hot" spots of light. This is important when working on highly reflective materials close to windows.



3. SCREENS SKY BRIGHTNESS. Architect Guido A. Binda of Battle Creek, Michigan, used windows to the ceiling for maximum daylight, yet screened out a good portion of sky brightness with Frosted *Aklo* Glass.

Do your daylighting requirements or architectural treatment call for large ribbons of windows . . . floor-to-ceiling fenestration? Meet these requirements and still keep the problems of sun heat and sun glare under control . . . with Blue Ridge Frosted *Aklo* Glass.

Growing use of *Aklo* in buildings of all types is good evidence of its performance. But see for yourself. Ask your L·O·F Distributor for a Blue Ridge radiometer demonstration which shows how much Frosted *Aklo* Glass reduces glare and sun heat. *Aklo* Glass is readily available from your L·O·F Glass Distributor or Dealer, listed under "Glass" in your phone book yellow pages. Or write to Libbey·Owens·Ford Glass Co., 608 Madison Ave., Toledo 3, Ohio.



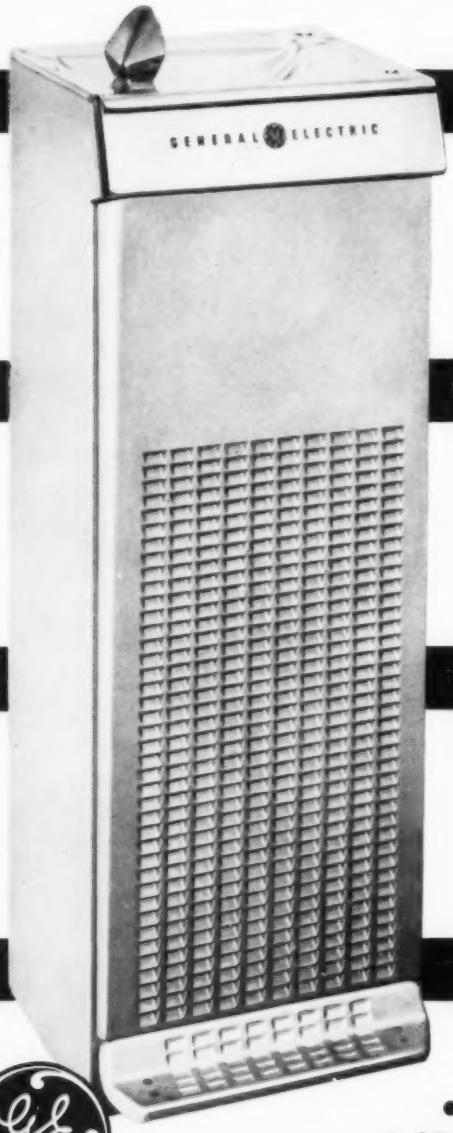
AKLO GLASS **FILTERS DAYLIGHT**

BLUE RIDGE GLASS

made by Blue Ridge Glass Corp.,
sold by Libbey-Owens-Ford Glass Distributors

LOF GLASS ®

Make sure you get all these features... specify GENERAL ELECTRIC WATER COOLERS



ANTI-SPLASH BASIN

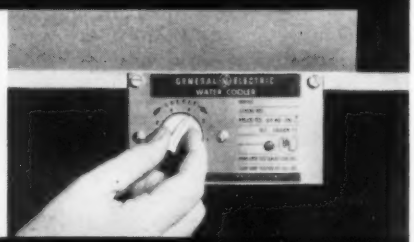
Prevents splashing, spilling, splattering of bubbler stream. Stainless steel—easy to clean.

NO-GROPE PEDAL

Full width design permits water control from any point in front of cooler. Special design prevents scuffed shoes, stubbed toes.

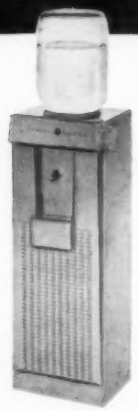
TEMPERATURE DIAL

Just dial the water temperature you like best. Eight different settings offer wide selection.



PLUS

- ADJUSTABLE BUBBLER
- HANDSOME STYLING
- SPACE-SAVING DESIGN
- 5-YEAR PROTECTION PLAN



BOTTLE TYPE. Air-cooled—serves up to 85 office workers. No plumbing needed. Ideal for small offices, shops.

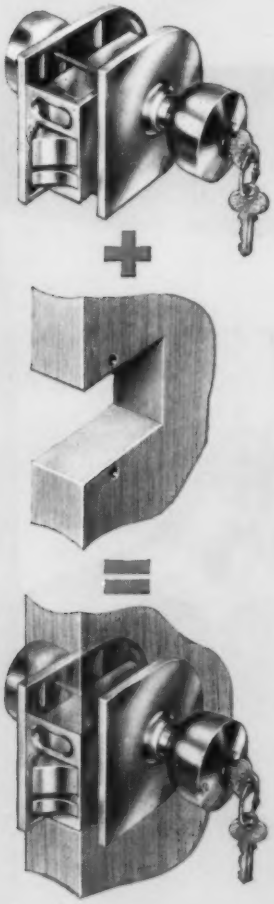
How many water coolers do you need and where should they be located for best results?

G-E Water Coolers are available in 7 different models with capacities from 2.85 to 21.5 gallons per hour. Call your local G-E Water Cooler dealer or write to General Electric Co., Commercial & Industrial Air Conditioning Department, 5 Lawrence St., Bloomfield, N. J.

Progress Is Our Most Important Product

GENERAL ELECTRIC

In Canada, Canadian General Electric Co., Ltd., Montreal



THE LOCKS THAT COME

PRACTICALLY "PRE-INSTALLED"!

CORBIN UNIT LOCKS

Completely assembled and aligned on a rugged one-piece "chassis" at the factory, Corbin Unit Locks provide simpler and more fool-proof installation than any other type of lock. Only simple notching of the door and two bolt holes are required . . . and the lock can be slipped into place as a unit, without mortising or further adjustment.

That's why Corbin Unit Locks are specified for so many outstanding new buildings of all types. Richly designed . . . with the solidity and fine finish that unmistakably say "quality" . . . they not only complement the architect's creative conceptions, but also minimize installation costs, eliminate maintenance, and thus insure enduring trouble-free operation.

Ask your dealer for full details of these finer locks for heavy-duty service. Also consult him for other selections from Corbin's complete line . . . *the world's most widely used builders' hardware.*

CONSTRUCTION FEATURES

Corbin Unit Lock designs are available in cast brass, bronze or aluminum metals in all popular finishes. Internal parts are of long-wearing nonferrous metal or zinc-plated dichromated steel. Lock frames are extruded brass. And the famous Corbin master ring cylinder provides unusually flexible keying and maximum protection at the same time. Approved by Underwriters' Laboratories for all Class B label doors.

CORBIN
The World's most widely used BUILDERS' HARDWARE

P & F CORBIN Division
The American Hardware Corporation
New Britain, Connecticut

CORBIN

HEAVY DUTY UNIT LOCKS

Ducts lined with L·O·F Glass Fibers' Microtex are easy to fabricate and install; offer maximum insulation per dollar.

L·O·F Glass Fibers' Microtex duct liner gives 3-way protection, even at peak air velocities

For more efficient, 3-way insulation . . . under *all* operating conditions . . . at low cost, specify L·O·F Glass Fibers' Microtex duct liner. Fine glass fibers absorb mechanical noises; insulate warm- and cold-air ducts against heat transfer. Duct itself acts as a vapor barrier. Sprayed facing resists air erosion, even at top operating velocities.

Economical Microtex provides maximum insulation per dollar. Applied quickly with adhesive and formed with the duct in the brake, Microtex requires no special skills, tools or equipment. Can be easy cut and fitted into irregular sections. Available in 1½, 2, and 3 lb. /cu. ft. densities, coated with black vinyl, Microtex is:

- strong
- fire-resistant
- permanent
- resilient
- lightweight
- pleasant to handle

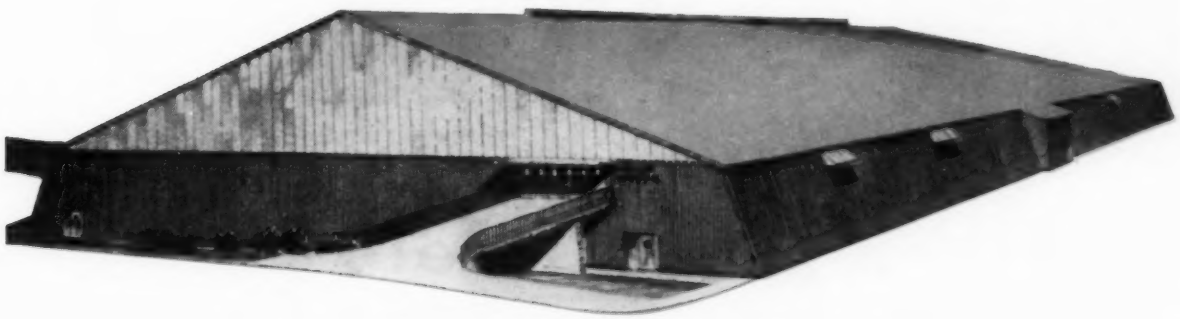
Get the facts on high-efficiency, low-cost Microtex duct liner. Contact our distributor, or write: *L·O·F Glass Fibers Company, Dept. 79-27, 1810 Madison Avenue, Toledo 1, Ohio.*

L·O·F GLASS FIBERS

L·O·F GLASS FIBERS COMPANY • TOLEDO 1, OHIO

Alcoa® Aluminum Siding and Roofing of
New Haverford College Field House is

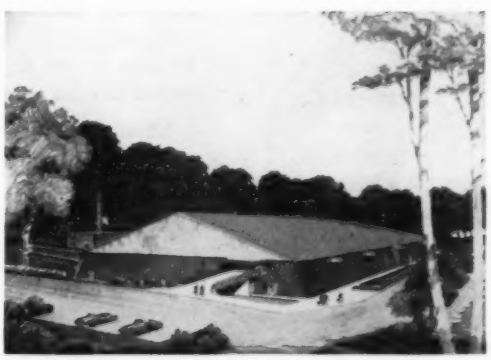
Alodized with ARCHITECTURAL ALODINE®



Chemical conversion coating is protective and decorative, reduces glare by 30% or more

Planned by the designers of Philadelphia's International Airport, the New Haverford College Field House will include facilities for practically all sports activities scheduled by the college. Its design is entirely functional, featuring all-steel framework and V-Beam Aluminum Siding and Roofing. The aluminum is chemically treated with Architectural Alodine to provide a protective and decorative coating integral with the metal. The color developed by the treatment is a sea green which materially reduces the reflectivity of the aluminum.

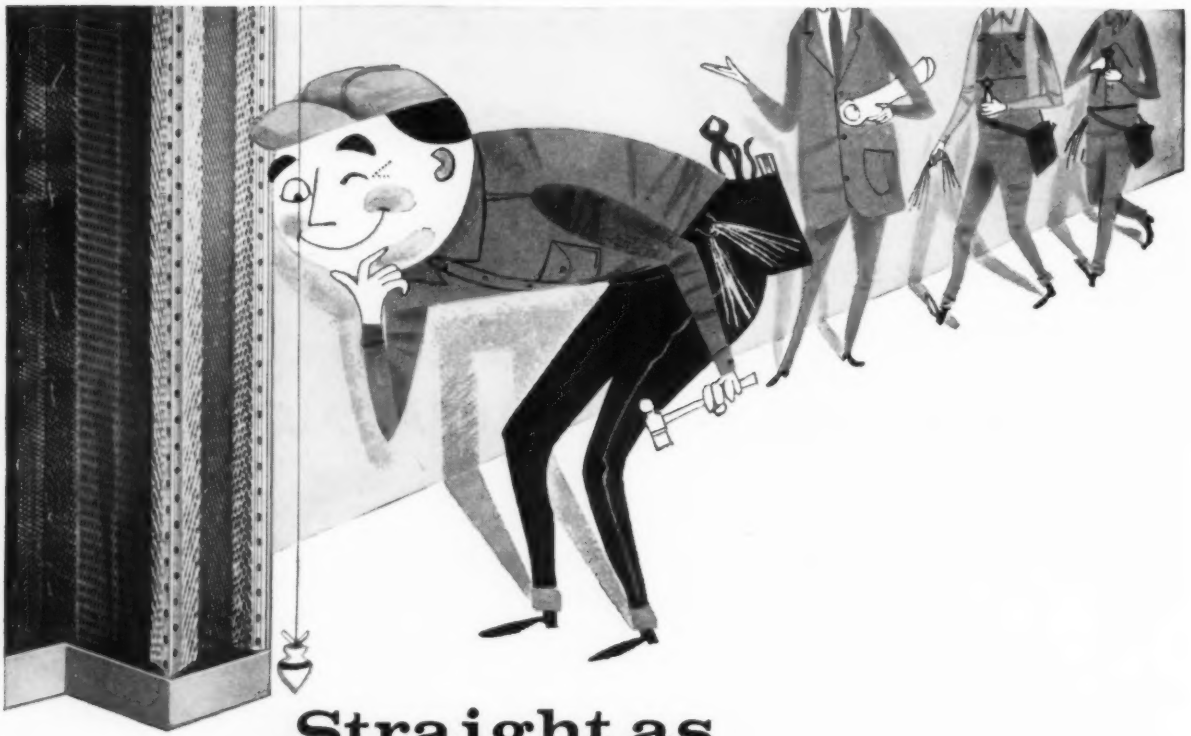
Write for a file folder covering architectural applications of this ACP product and showing samples of the sunfast colors available.



Project: Haverford College Field House • **Location:** Haverford, Pa. • **Architect:** Carroll, Grisdale & Van Alen, A.I.A. • **Builder:** McCloskey & Co., Philadelphia • **ACP Approved Architectural Alodine Processor:** J. W. Rex Co., Lansdale, Pa. • **Aluminum Subcontractor:** Elwyn G. Smith Co., Pittsburgh, Pa.

AMERICAN CHEMICAL PAINT COMPANY, Ambler 22 Pa.
Detroit, Mich. • St. Joseph, Mo. • Niles, Calif. • Windsor, Ont.

CHEMICALS ACP PROCESSES



Straight as a plumb line!

Get the truest, strongest corners with Milcor Super-Ex Corner Bead

No other corner bead combines plumb-line straightness and a strong plaster bond like Milcor Super-Ex does. This is because Super-Ex combines the rigidity of a solid flange with the added plaster reinforcement of an expanded metal wing.

Super-Ex's special design makes it simple to align — even on irregular surfaces, for reduced installation time and costs.

The finished corner is stronger, too, because of Super-Ex Corner Bead. The greater depth of plaster adjacent to the bead gives extra protection against shocks.

See Sweet's File, Catalog 12a/In. It gives you complete information on Super-Ex and other Milcor metal-lath products.

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ML-2

Will the heating and ventilating system you select for your new school meet the requirements of 1962...or 1967 ...or even 1977?

IT CAN!

On the next two pages, the latest development in unit ventilators is described. It takes the guesswork out of planning . . . it lets you provide for tomorrow's needs today with today's budget!

Here's the new HerNel-Cool II Unit Ventilator..

INSTALL IT *NOW* . .

These DRAFT|STOP louvers trap cold air pouring off the windows. It is drawn into the unit, warmed, and recirculated.
The same pipes carry hot water for heating and chilled water for air conditioning. The chiller can be installed in the boiler room at any time.

YOUR new school's heating and ventilating system can be as modern as tomorrow—*and stay that way* —if you plan around the new HerNel-Cool II!

Every essential for classroom comfort, including air conditioning, is provided in this "last word" system. Every month of the year, the climate inside each classroom can be that of a perfect June day—comfortable, fresh, clean — with no drafts, no dead spots, no stale overheated air.

Check these features — only the HerNel-Cool II offers all of these:

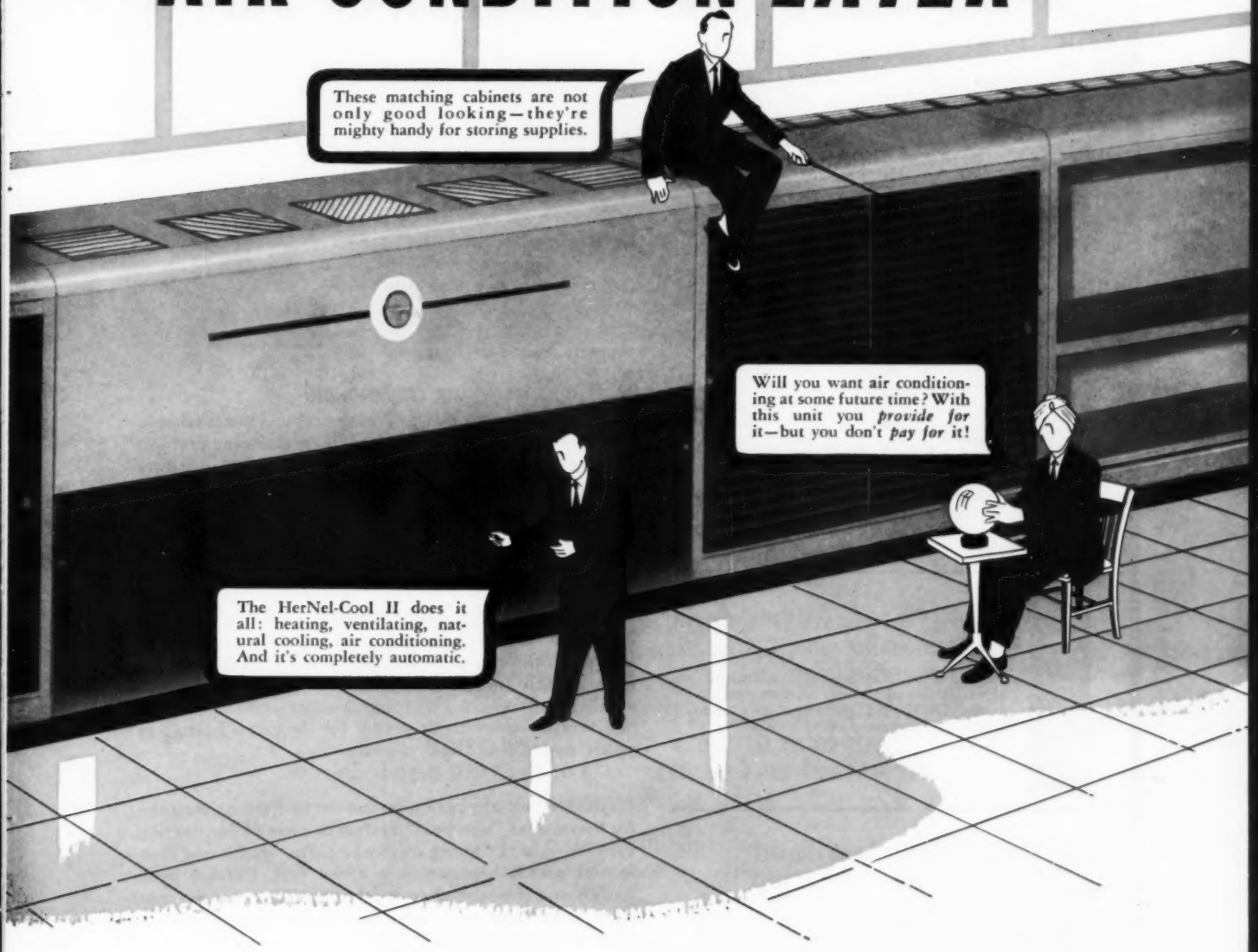
1 *Flexible air conditioning:* The same pipes which carry hot water for cold weather heating carry chilled water for summer air conditioning. All you need is a chiller in the boiler room. It can be provided initially or at any future time. Whenever air conditioning is desired, you can have it with a minimum of expense, with no disruption, with no costly alterations!

2 Famous *DRAFT|STOP* method of controlling window downdrafts* without adding to the classroom heat load. Cold window drafts are trapped, drawn into the unit, then warmed and gently circulated.

3 Circulating *hot water* for heating — with either wall-hung, cabinet-base, or recessed-edge perimeter piping. The most flexible, most economical heating system there is. HerNel-Cool II heats only when heat is needed—

..by Herman Nelson

• • AIR CONDITION *LATER*


These matching cabinets are not only good looking—they're mighty handy for storing supplies.
Will you want air conditioning at some future time? With this unit you *provide for* it—but you don't *pay for* it!
The HerNel-Cool II does it all: heating, ventilating, natural cooling, air conditioning. And it's completely automatic.

saves fuel when it is not.

4 *Completely automatic individual room control* for true comfort in every season. The HerNel-Cool II "thinks for itself" and provides rapid heat, air for ventilation, or air for natural cooling as the room requires. In hot weather, when outside temperatures soar, it switches automatically to mechanical cooling.

A HerNel-Cool II system fits into today's school budget . . . but it's benefits will be enjoyed for many years to come. Today—or twenty years from today—pupils will be alert and comfortable from the opening of school to the closing bell. Teachers will be free to concentrate on *teaching*—in an atmosphere that's conducive to *learning*.

Want more facts? Ask your Herman Nelson representative or write to Herman Nelson Unit Ventilator Products, American Air Filter Company, Inc., Louisville 8, Ky.

**Patented, there are no substitutes.*

herman nelson

UNIT VENTILATOR PRODUCTS

American Air Filter Company, Inc.

SYSTEM OF CLASSROOM COOLING, HEATING AND VENTILATING

Any Fuel . . . Any Climate . . .

HERMAN NELSON UNIT VENTILATORS GIVE MORE CLASSROOM COMFORT PER DOLLAR

HOT WATER OR STEAM

Herman Nelson Unit Ventilators with patented DRAFT|STOP control downdrafts without adding to the heat load, provide ideal classroom climates.

AIR CONDITIONING

The HerNel-Cool unit provides mechanical cooling, heating, ventilating or natural cooling as required. Thoroughly tested in hot, humid climates.

GAS

New UNIvent Gas School Ventilator provides all the health and comfort features of the DRAFT|STOP system in a completely self-contained unit.

MILD CLIMATES

AMERVENT built especially for schools in mild climate areas, provides fresh air cooling, heating and ventilating within the nominal cost of heating alone.

ELECTRIC

New Electric Unit Ventilator in which an electric heating element replaces the hot water or steam coil provides all DRAFT|STOP comfort features.

Herman Nelson now offers a line from which you can select the ideal unit for meeting any school's requirements! The cooling, heating, ventilating system can be "tailored" to provide true classroom comfort in the most economical and most practical way.

VARIETY OF FUELS

In temperate or cold climates, the *Herman Nelson Unit Ventilator* operates with either *hot water, steam, gas* or *electricity*. The patented DRAFT|STOP system has given a new meaning to "classroom comfort" as it controls down drafts and automatically provides a constant supply of properly heated or cool fresh air.

AIR CONDITIONING

HerNel-Cool units offer an economical and practical solution to the increasingly important air conditioning problem. Most of the year they provide heat, ventilation or natural cooling (with outside air). Air conditioning can be provided at any time by simply adding a chiller to the system. The units switch automatically to mechanical cooling with chilled water circulating in the same piping that carries hot water during cold weather.

MILD CLIMATES

Schools in mild climates have an increased cooling and ventilating problem and a decreased heating problem. With Herman Nelson *AMERVENT* these schools can now enjoy all the essentials for classroom comfort—cooling, heating and ventilating—without paying for the excess heating capacity required in frigid climates.

* * *

Flexibility will always be important to Herman Nelson—for there is no "one best" system to provide for heating, ventilating and cooling classrooms. The health and comfort of pupils and teachers come first. Climate area, design and structure of each school will indicate the most economical and practical system to achieve that ideal classroom atmosphere.

Would you like more information? Ask your Herman Nelson representative or write to Herman Nelson Products, American Air Filter Company, Inc., Louisville 8, Kentucky.

BETTER AIR IS OUR BUSINESS

AAF herman nelson
UNIT VENTILATOR PRODUCTS

American Air Filter Company, Inc.
System of Classroom Cooling, Heating and Ventilating

HERE'S WHY

CERTIFIED BALLASTS

CBM CERTIFIED by ETL

ENJOY A PREFERENCE OF NEARLY 2 TO 1

In 1955, nearly 2 out of 3 HPF ballasts were CERTIFIED CBM BALLASTS.

There is just one reason for this preference:

CERTIFIED CBM BALLASTS assure more satisfactory and economical fluorescent lighting.

Built to exacting specifications that provide the precise electrical needs of fluorescent lamps, and periodically checked by Electrical Testing Laboratories, Inc., CERTIFIED CBM BALLASTS are your assurance of:

RATED LIGHT OUTPUT • RATED LAMP LIFE
LONG BALLAST LIFE • TROUBLE-FREE OPERATION
FREEDOM FROM NOISE

. . . all contributing to better lighting, lower maintenance cost and more economical fluorescent operation.

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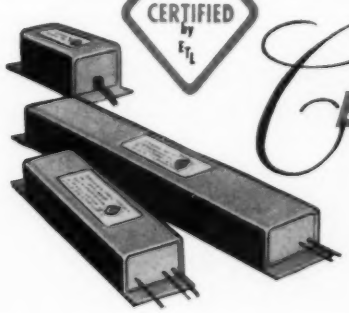
Send for free booklet, "Why It Pays to Use CERTIFIED CBM BALLASTS in Fluorescent Lighting Fixtures".

CBM CERTIFIED by ETL



CERTIFIED BALLAST MANUFACTURERS

2116 KEITH BUILDING • CLEVELAND 15, OHIO

Seven of the country's leading manufacturers of ballasts make CERTIFIED CBM BALLASTS. Participation in CBM is open to any manufacturer who wishes to qualify.

Thermal comfort, convenience, economy in largest

ABINGTON TOWNSHIP SENIOR HIGH SCHOOL, Abington, Pennsylvania . . . is noteworthy for its comprehensive educational program and its complete development of modern facilities for learning.

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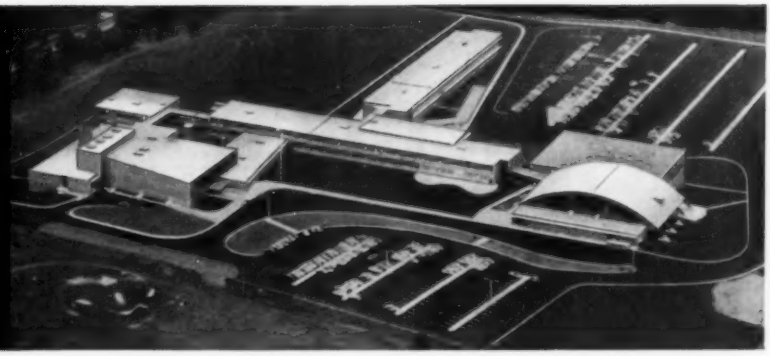
Joseph Wigmore, Philadelphia, Pa.
Mechanical Engineer:
Carl D. Shields
General Contractor:
Baton Construction Corporation
Mechanical Contractor:
American Sanitary Sales & Service Co., Inc.

"This school has been built by the careful work of many hands, the deep loves of many hearts, the clear lights of many minds. We pray that it may be forever free to hand down to our children the heritage of truth, justice and liberty under God which we have treasured from our forefathers."



high school in suburban Philadelphia, are assured by a POWERS THERMOSTATIC control system

POWERS Individual Room Control regulates heating and ventilating in the buildings shown above which have over 250,000 sq. ft. of floor space.

Control of the steam heating system is divided into 16 functional zones, each with its own DAY-NITE-quick warm up selector switch. Static pressure control of air in main auditorium and stage area prevents stage curtain from blowing. Controls in main auditorium and Audion also provide for future air conditioning. Other types of Powers control regulate steam pressure of oil fired boilers, temperature of feed water heaters, fuel oil preheaters, domestic water heaters and swimming pool heater.

Abington's new $6,000,000 high school has been designed to provide the most effective environment for stimulating learning and all around growth of students and adults of the community.

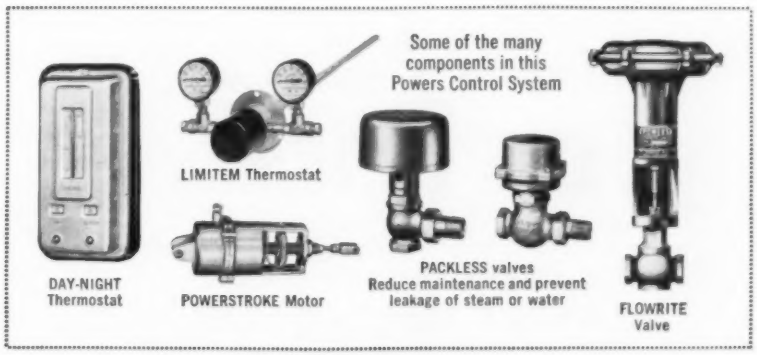
In each of 150 classrooms and special service rooms, heating and ventilating are controlled by a Powers individual room thermostat. Ideal room temperatures help students to think better and increase efficiency of teachers. By eliminating over-heated rooms Powers control also reduces heating costs.

Powers Control Systems are engineered to give lowest operating and maintenance cost service. Users often report 25 to 40 years of dependable control with a minimum of repairs.

Are You Planning a New Building or remodeling an old one? Ask your architect to include a Powers quality system of temperature control. You will help insure utmost comfort, fuel economy and lowest operating and upkeep cost.

(C82)

Powers Master Control Panel in engineer's office provides centralized supervision for the 16 zones throughout the school plant. When gymnasium or swimming pool are in use, heating and ventilating in locker spaces automatically go into operation. Special Powers humidity control prevents "fogging" of large glass window in swimming pool.


Some of the many components in this Powers Control System
LIMITEM Thermostat
DAY-NIGHT Thermostat
POWERSTROKE Motor
PACKLESS valves Reduce maintenance and prevent leakage of steam or water
FLOWRITE Valve

For further information contact our nearest office

THE POWERS REGULATOR COMPANY

SKOKIE, ILLINOIS | *Offices in chief cities in U.S.A., Canada and Mexico*

65 YEARS OF AUTOMATIC TEMPERATURE AND HUMIDITY CONTROL

Dur-O-waL Adds STRUCTURAL SOUNDNESS to Masonry Walls

Butt weld Dur-O-waL lies flat in the mortar bed . . . . handles fast . . . . provides crack control for every type of masonry wall.

6 Reasons why Architects Specify Dur-O-waL

- Dur-O-waL combats cracks; safeguards beauty
- The trussed design makes all steel work as a unit
- Dur-O-waL meets ASTM Specification A82-34
- Dur-O-waL handles fast, assures tight mortar joints
- Dur-O-waL's performance has created its demand
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Butt Weld • Deformed Rods

DUR-O-WAL®

the Backbone of Steel for EVERY masonry wall

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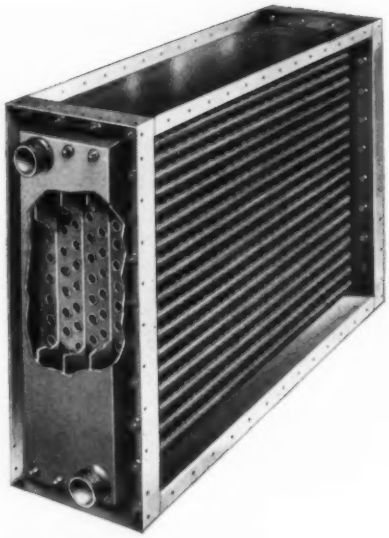


AEROFIN TYPE R REMOVABLE HEADER WATER COILS

- **Complete Drainability**
- **Easily Cleaned**
- **High Heat Transfer**

Completely drainable and easily cleaned, Aerofin Type "R" coils are specially designed for installations where frequent mechanical cleaning of the inside of the tubes is required.

The use of ⅝" O.D. tubes permits the coil to drain completely through the water and drain connections and, in installations where sediment is a problem, the coil can be pitched in either direction. The simple removal of a single gasketed plate at each end of the coil exposes every tube, and makes thorough cleaning possible from either end.

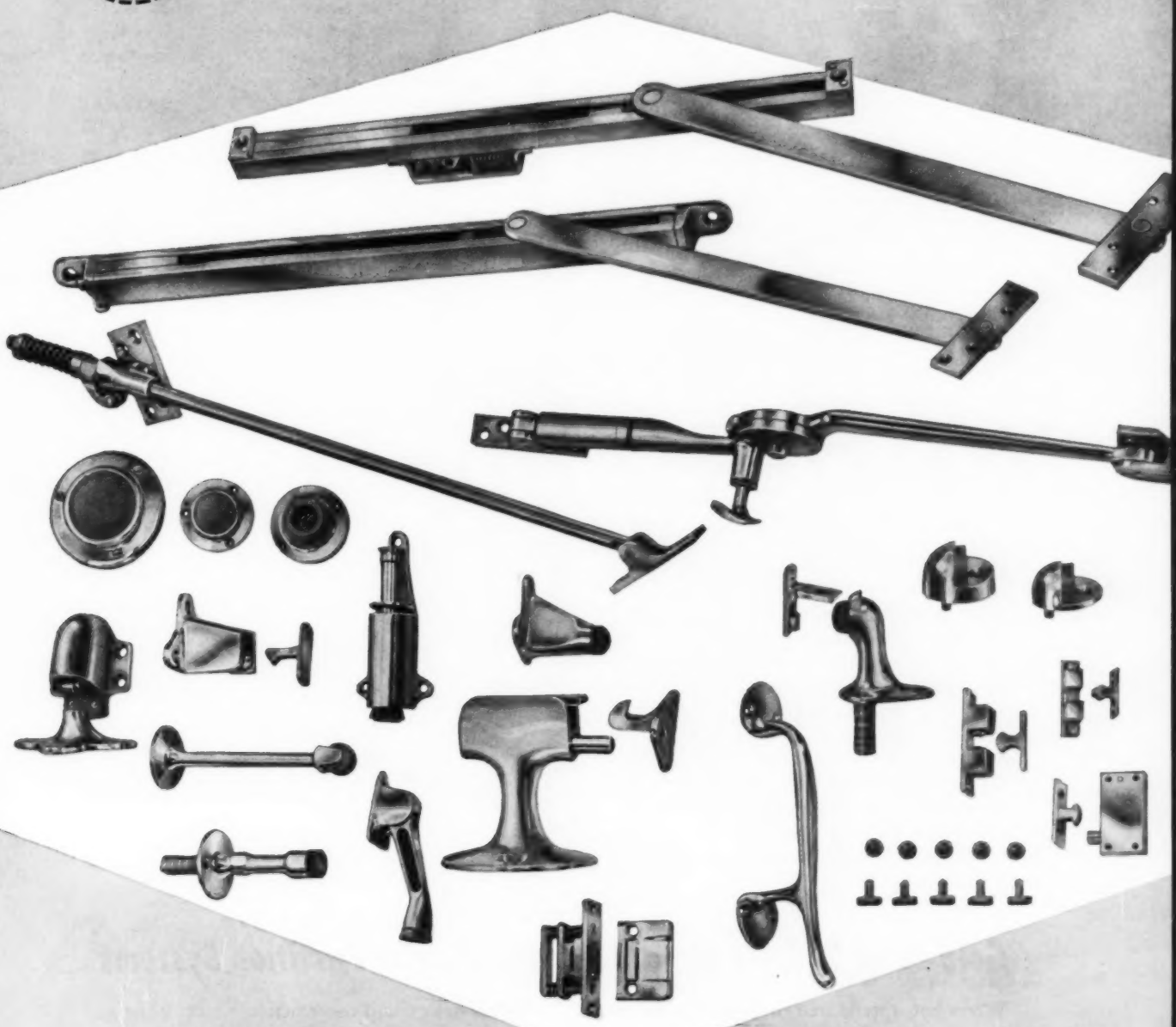
The finned tubes are staggered in the direction of air flow, resulting in maximum heat transfer. Casings are standardized for easy installation. *Write for Bulletin No. R-50.*

AEROFIN CORPORATION

101 Greenway Ave., Syracuse 3, N.Y.

Aerofin is sold only by manufacturers of fan system apparatus. List on request.

the satisfaction of specifying PROVEN quality...



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door control hardware

since 1923

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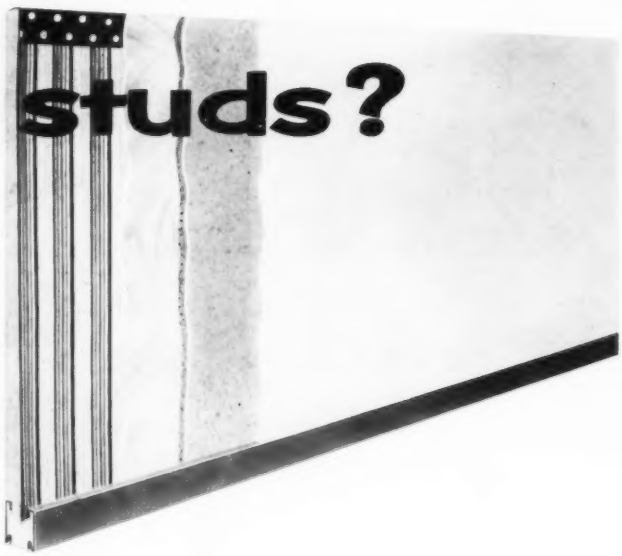
WITH channel studs, the Gold Bond 2″ Solid Metal Lath and Plaster Partition System provides maximum fire protection, stability and low sound transmission. The system saves space . . . takes up less than half that of conventional wood-stud or masonry-constructed partitions. Metal ceiling runners, channel studs, base clips and base sections are designed to form a strong non-bearing interior partition up to 12′ high.

WITH or WITHOUT studs?



WITHOUT channel studs, the Studless Metal Lath and Plaster 2″ Solid Partition cuts material costs, reduces labor expense and allows time-saving construction. Composed of ⅛″ rib lath secured at floor and ceiling, the studless partition is plastered on both sides to an overall thickness of two inches. Normal limitation to the height of the studless partition system is 8′ 4″ . . . where it is possible to provide for longer lengths of lath in advance, partitions higher than 8′ 4″ can be constructed. This strong, economical, non-bearing partition is excellent for interior walls of apartment houses, hotels, office buildings and private homes.

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Diffusers of Du Pont LUCITE used in the American Hardware Mutual Insurance Company's new home office, Minneapolis, Minn. Architects: Thorshov & Cerny, Minneapolis. Lighting fixtures by Curtis Lighting, Inc., Chicago, Ill. LUCITE extruded by Sandee Manufacturing Co., Chicago.

Better looking, better lighting

with diffusers of Du Pont LUCITE®

The lighting system shown above is typical of the entire installation at the American Hardware Mutual Insurance Company's new home office which uses diffusers of Du Pont LUCITE acrylic resin. The objective . . . to design a low-brightness, glare-free illumination to be the basis of an integrated ceiling system including lighting, sound-absorption elements and ventilating facilities.

Luminaires were required that would reduce the brightness ratios between luminous and non-luminous elements and combine maximum comfort with maximum efficiency. After studying several different systems, architects Thorshov & Cerny selected luminaries having diffusers of Du Pont LUCITE.

Luminaires of LUCITE acrylic resin transmit optimum light without specular glare or shadow. They are strong, durable, dimensionally stable and free from discoloration. Light in weight and easy to handle, diffusers of LUCITE are easy to install . . . maintain their clarity and beauty.

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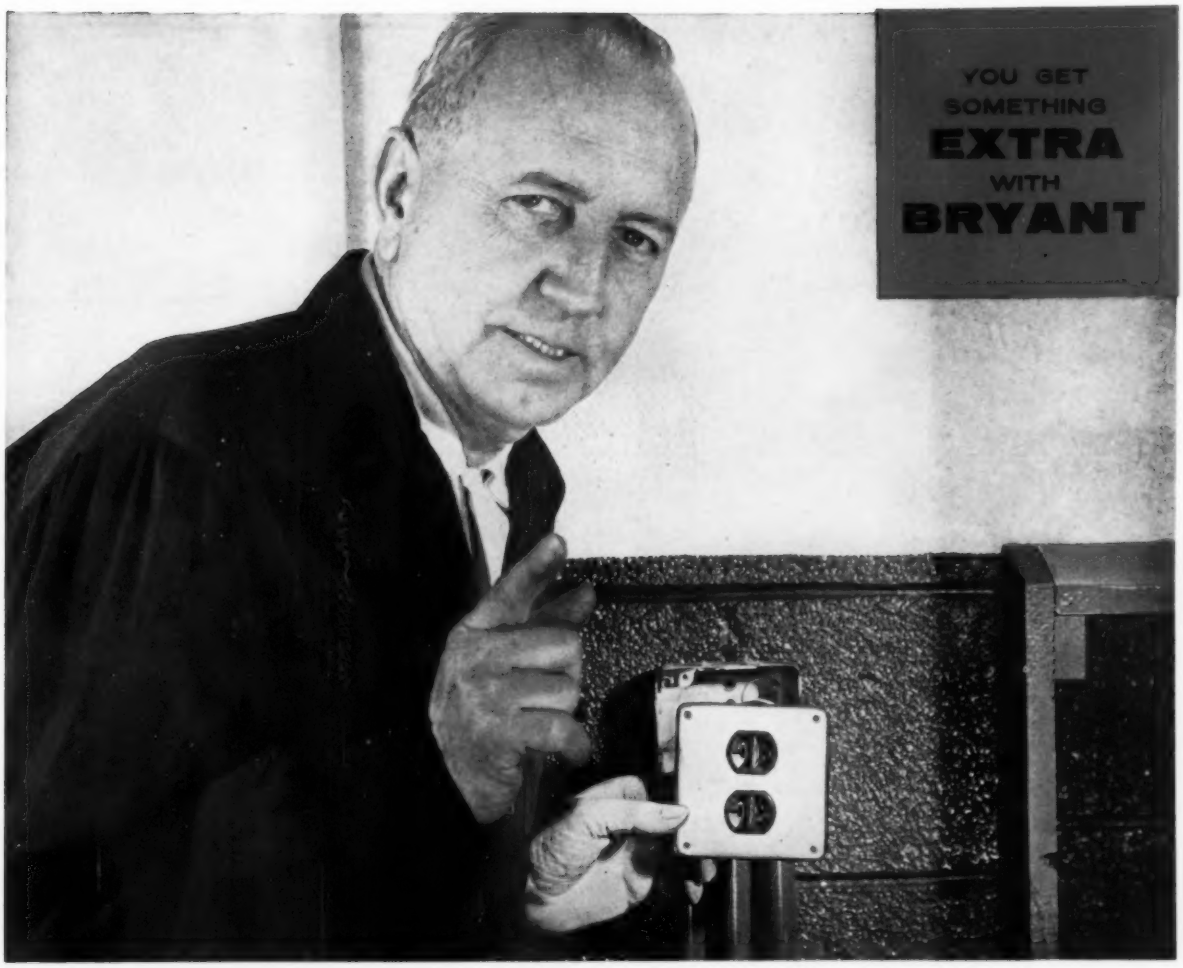

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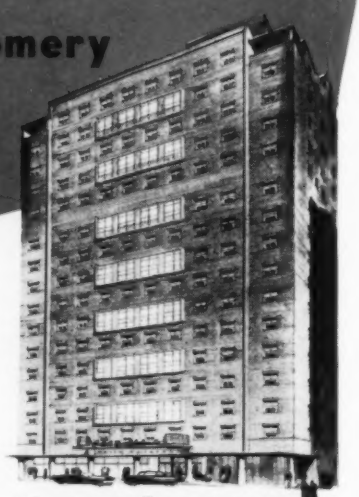

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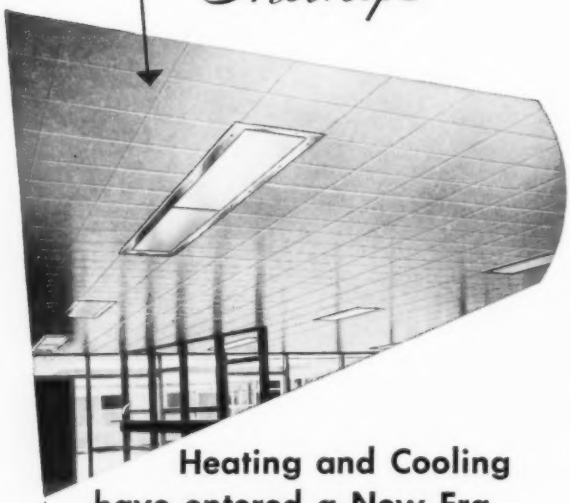

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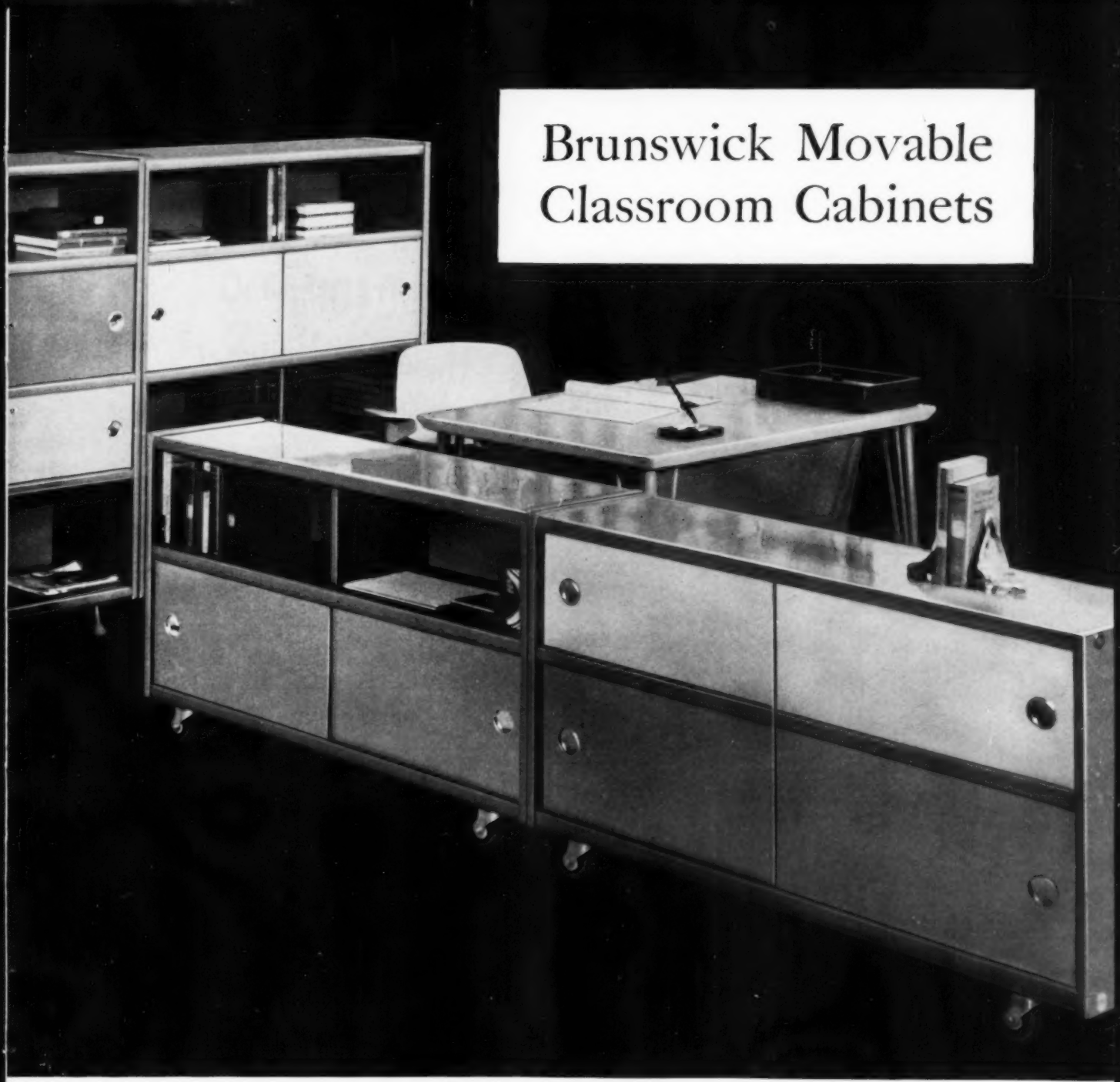

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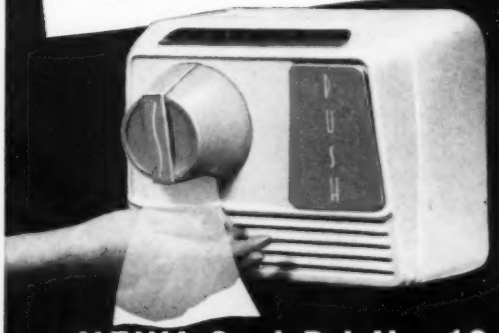

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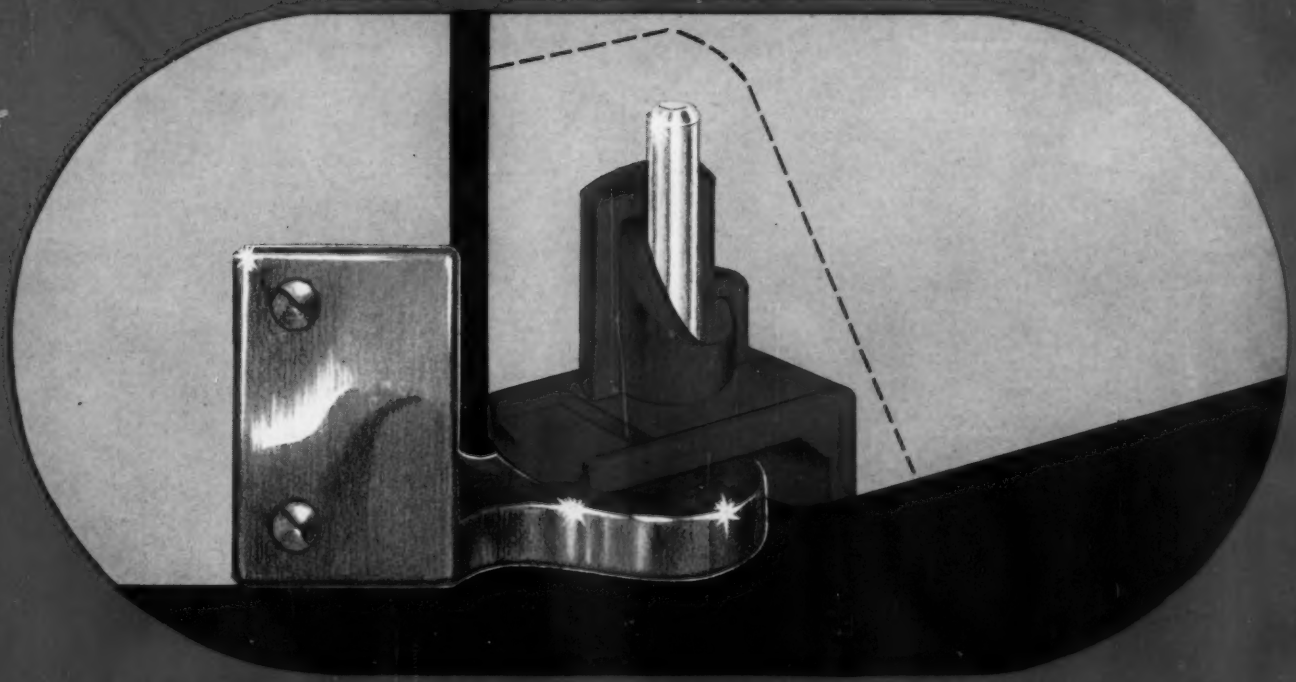

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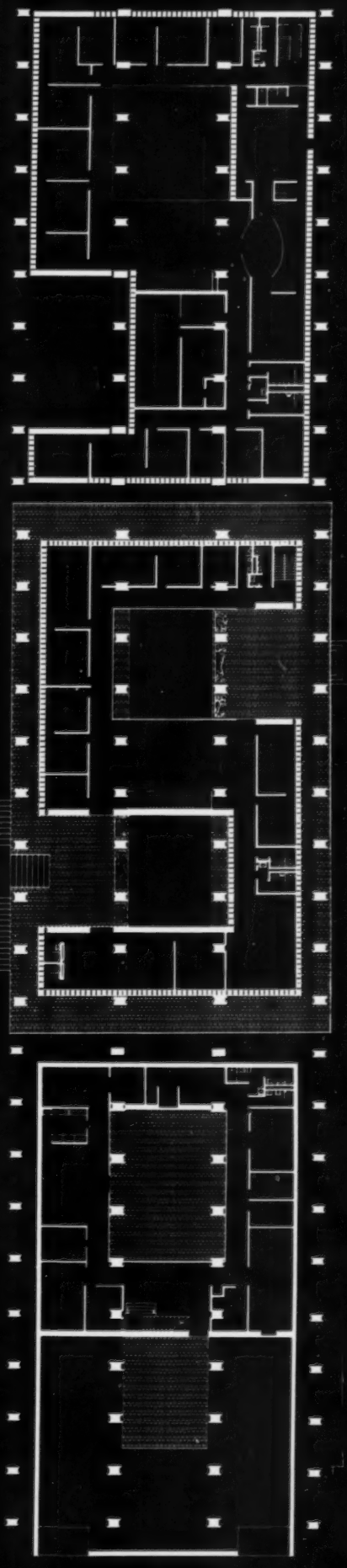
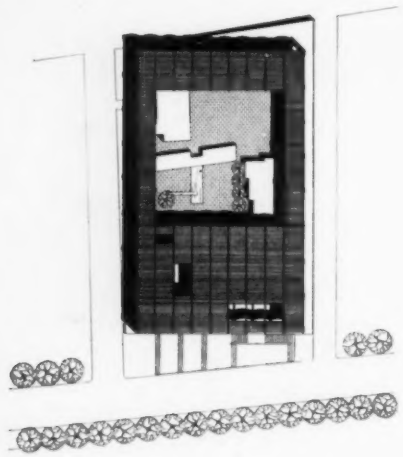
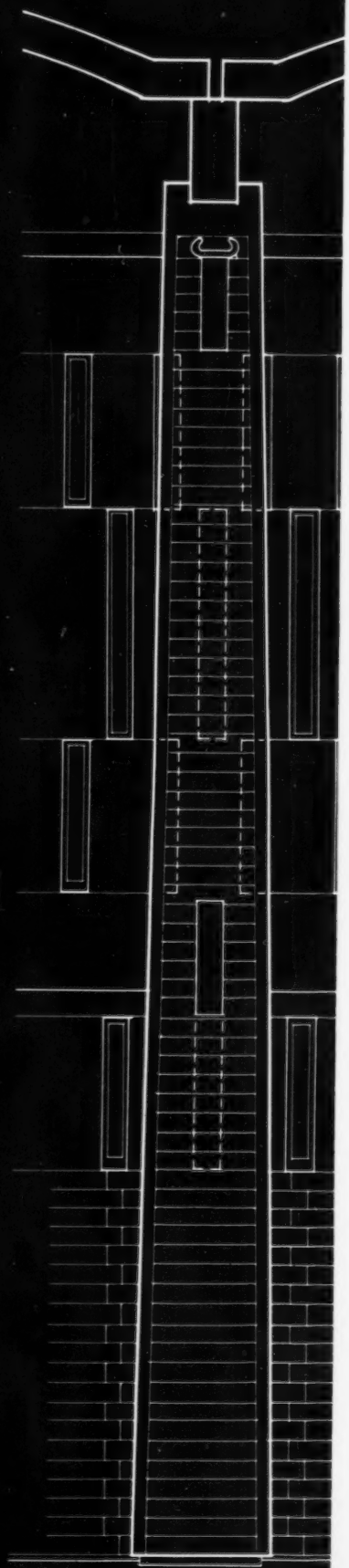
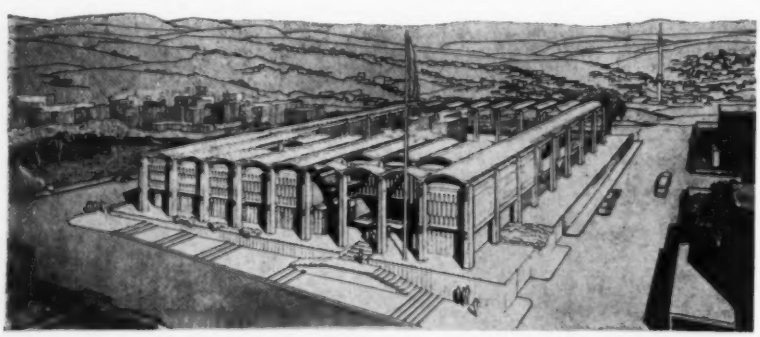


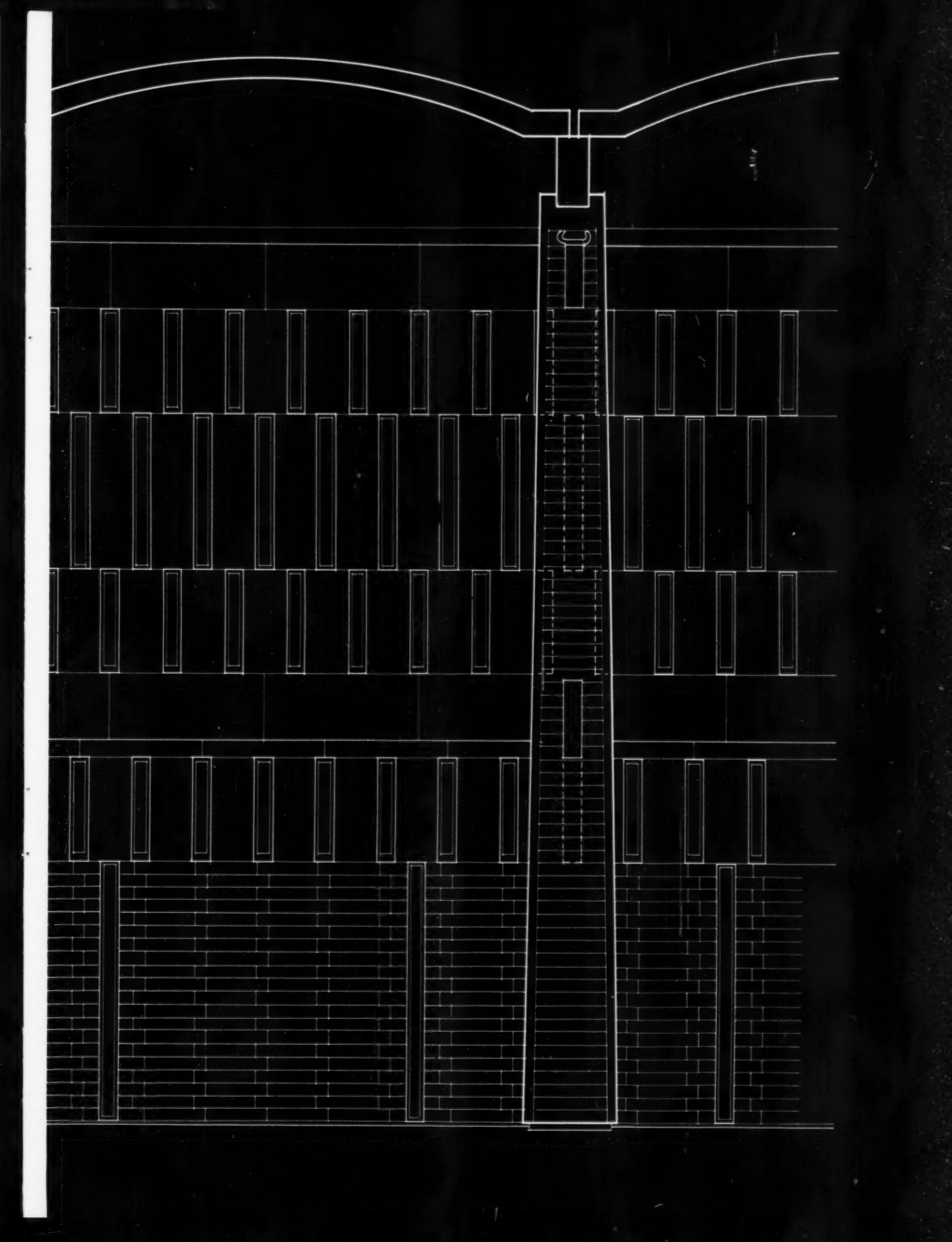


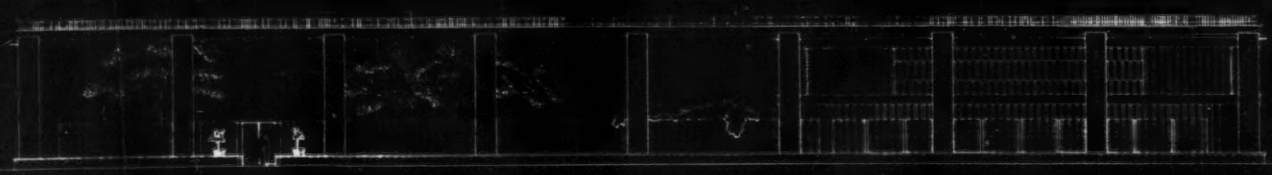


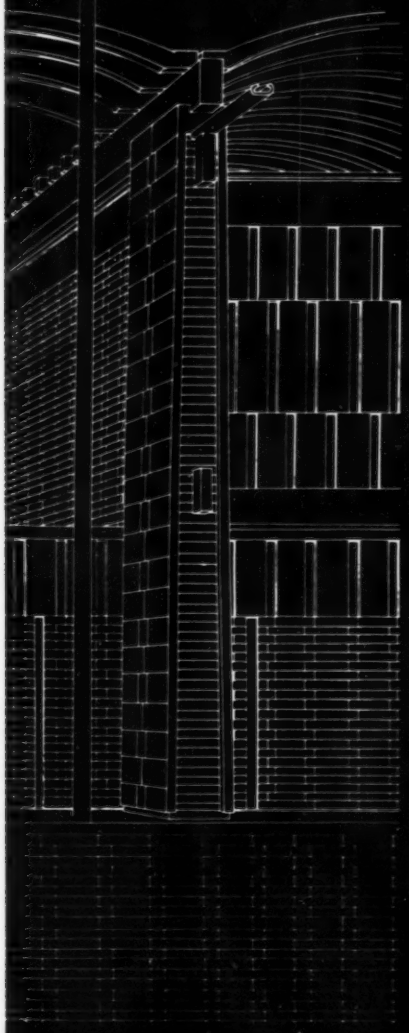
THE UNITED STATES EMBASSY FOR JORDAN

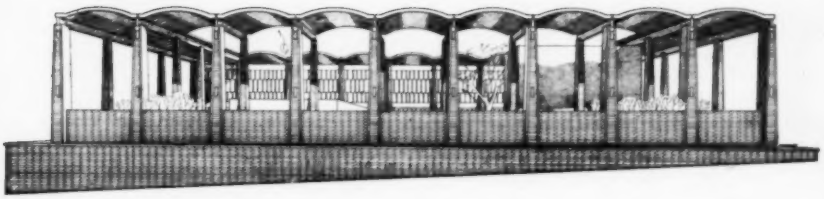
IN THE HARSH, hot daylight of Jordan where the maintenance of mechanical cooling equipment is difficult, this building finds a natural answer in the ancient Arabian double tent. Here a vaulted parasol of close-spaced concrete ribs echoes a common regional form and expresses its independence of the lower watertight roof which it shelters. All piers and walls employ the local technique of pouring concrete into 5-in.-thick forms of native

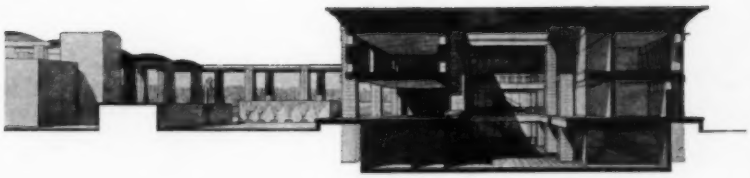


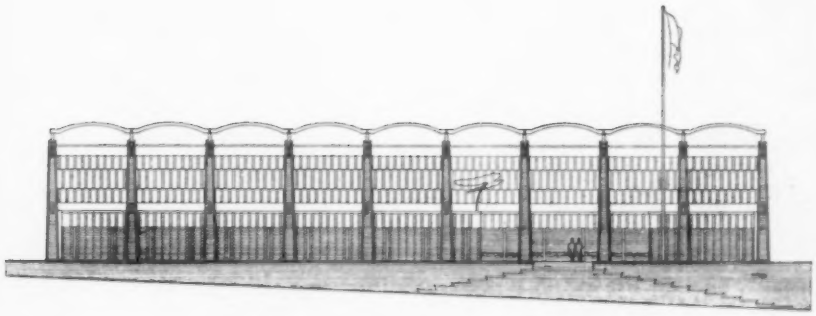








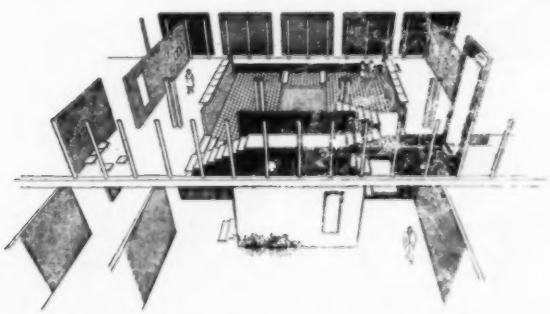




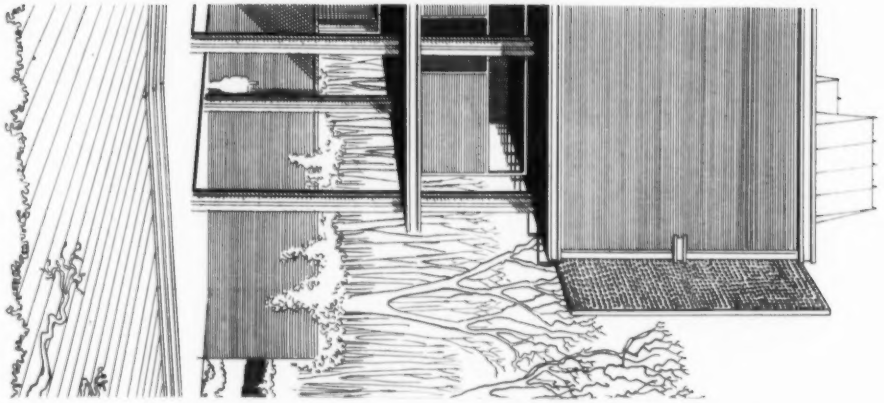
limestone which, as the finish material, relates the building clearly to the surrounding city. Under the great shade roof the several units are broken into small masses in scale with nearby buildings, and this kind of response to local tradition is seen, too, in the customary independence of first- and second-floor plans, the use of the compound wall, and the inviting spatial sequences of the courtyard — in which the existing residence of the Ambassador will remain. *Sasaki & Novak, Landscape Architects; Seelye, Stevenson & Knecht, Structural Engineers; Ebaugh & Gothe, Mechanical Engineers.*

THE MARY COOPER JEWETT ARTS CENTER

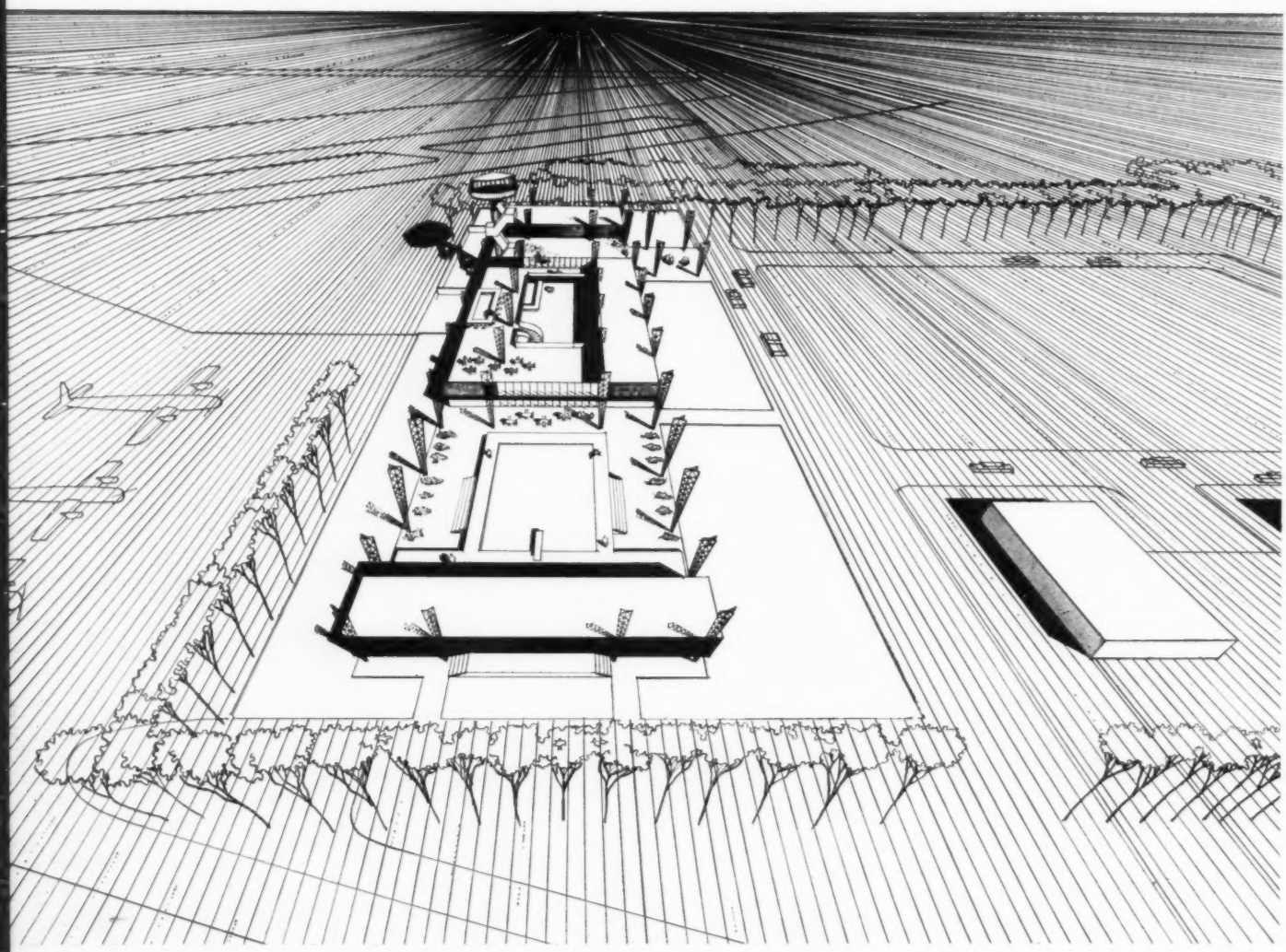
THIS Wellesley building for creative art activities is a clear example of sensitive response to environmental relationships and a careful exercise in plan organization. Music and drama functions are located in the square unit and consist of a classroom and auditorium core standing free in a clerestory-lighted covered courtyard surrounded by ground-floor practice and listening rooms and second-floor library and offices. A bridged lobby



and exhibit gallery connect this unit to the long art building which stacks classrooms, library and offices, study rooms, and studios in four levels. Visual integration with the existing hilltop cluster of brick and limestone Collegiate Gothic buildings grows from the location of the building; from its dimensional characteristics (the 15-ft. module, repeated vertical measures, and a close similarity between new cluster columns and existing mullions all afford a harmony of scale); from the prism-like skylights and undulating facia which extend the elaborate silhouettes; and from its color. *Paul Rudolph, Architect; Anderson, Beckwith & Haible, Associated Architects; David Johnson, Job Captain; Sasaki & Novak, Landscape Architects; Goldberg, Le Messurier Associates, Structural Engineers; Stressenger, Adams, Maguire & Reidy, Mechanical and Electrical Engineers; Bolt, Beranek & Newman, Acoustical Consultants; George A. Fuller Co., Contractor.*

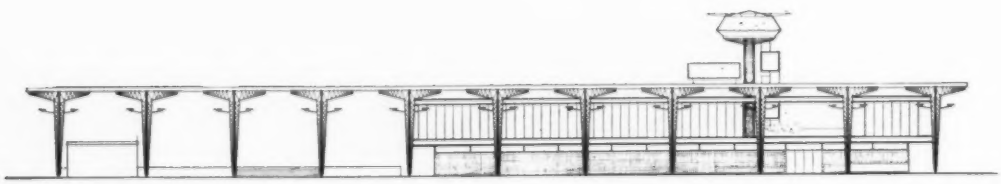


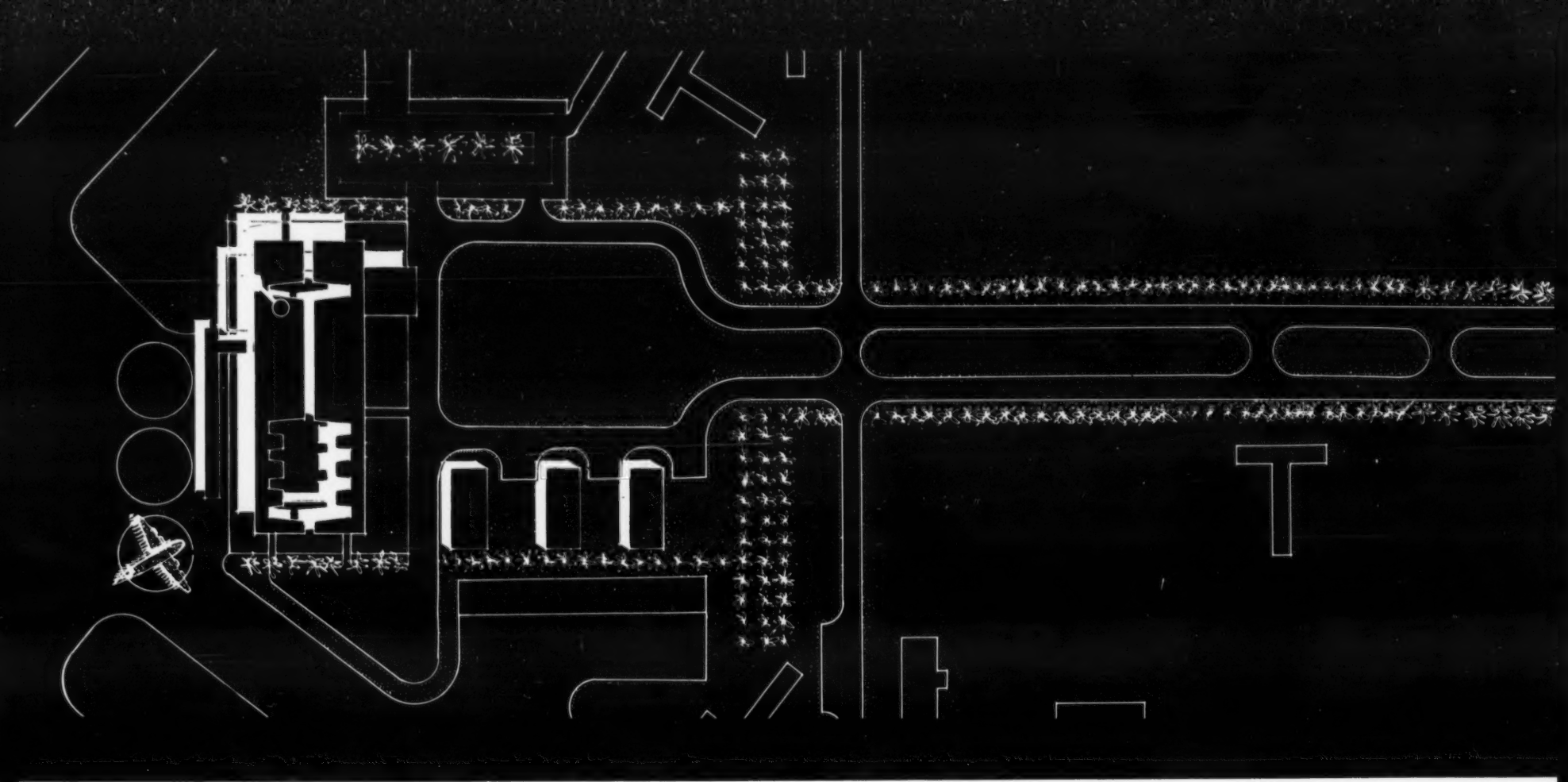
Mock-up porcelain enamel screen, Fred Stone photo

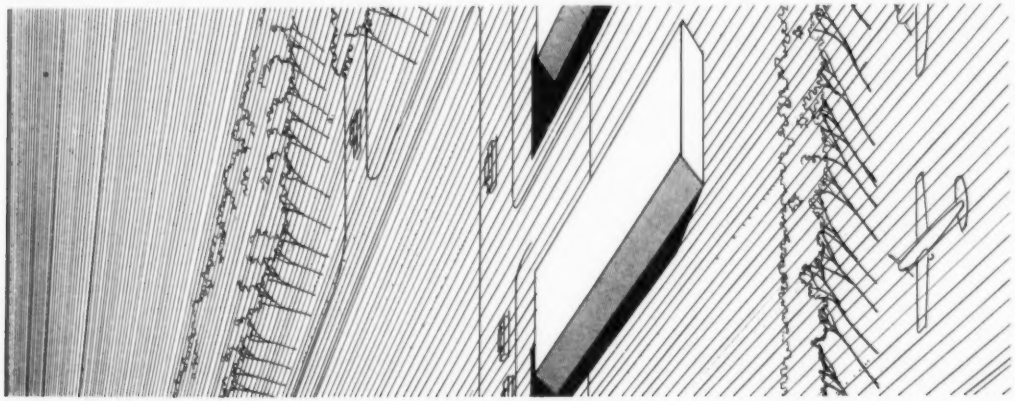


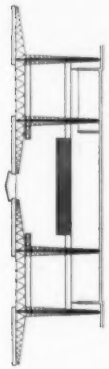
THE SARASOTA-BRADENTON MUNICIPAL AIRPORT TERMINAL BUILDING

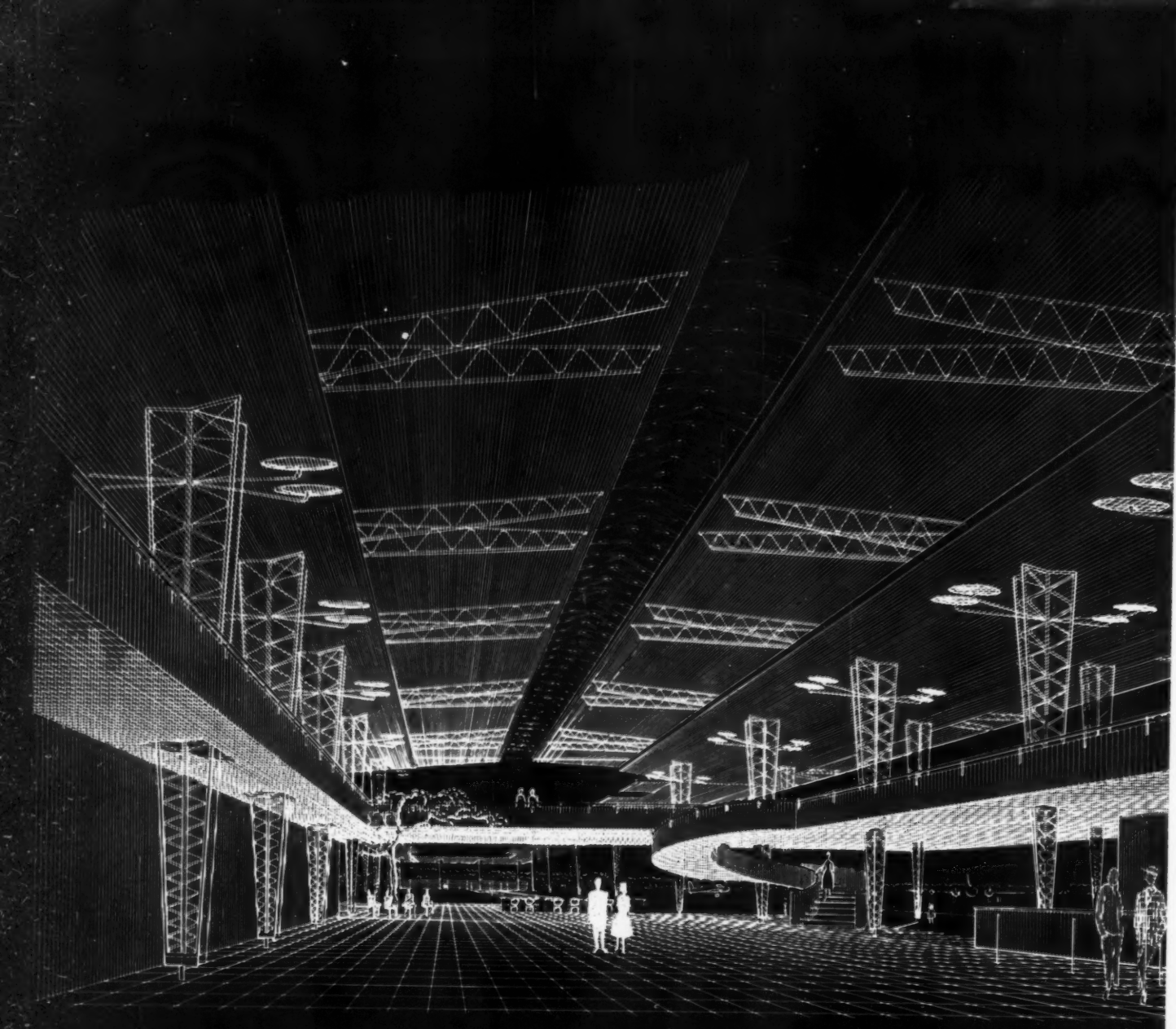
IN A TOURISM ECONOMY it was deemed important to provide overnight, eating, swimming, and private-plane facilities. Built by the Air Force during the last war, the palm-lined approach terminates in a grass forecourt to the building which has been conceived as a single great pavilion uninterrupted even by the open-web steel structural system. The two roof levels are supported variously by the upper and lower chords of the trusses. The qualities of lightness and precision felt appropriate to an airport have been sought throughout. *Paul Rudolph, Eliot C. Fletcher, John M. Crowell, Associated Architects; Charles T. Healy and Associates, Mechanical Engineers; George L. Jerome, John M. Crowell, Structural Designers.*

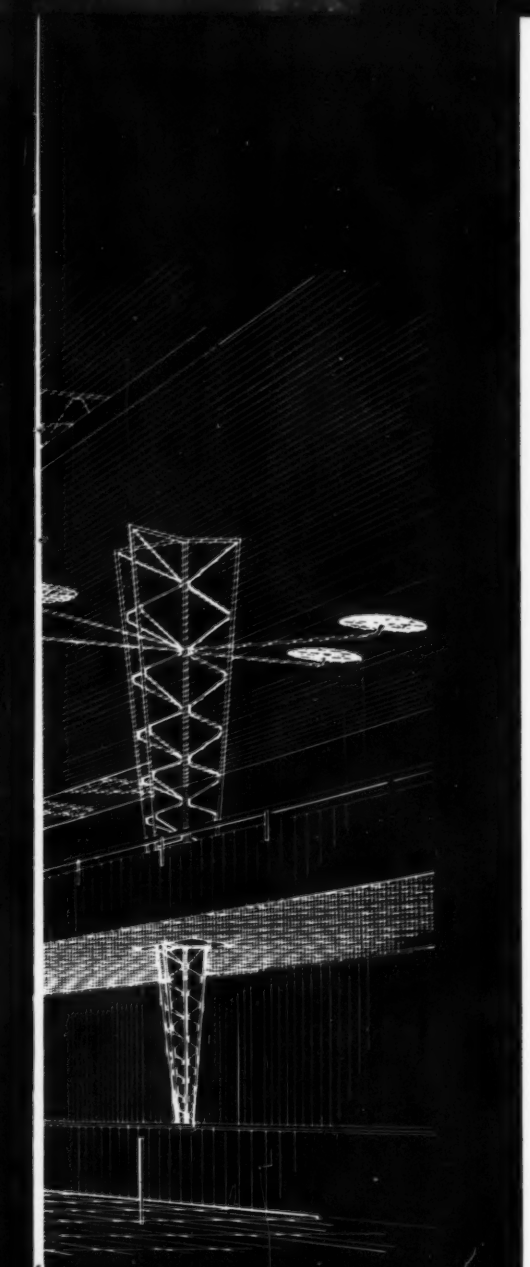


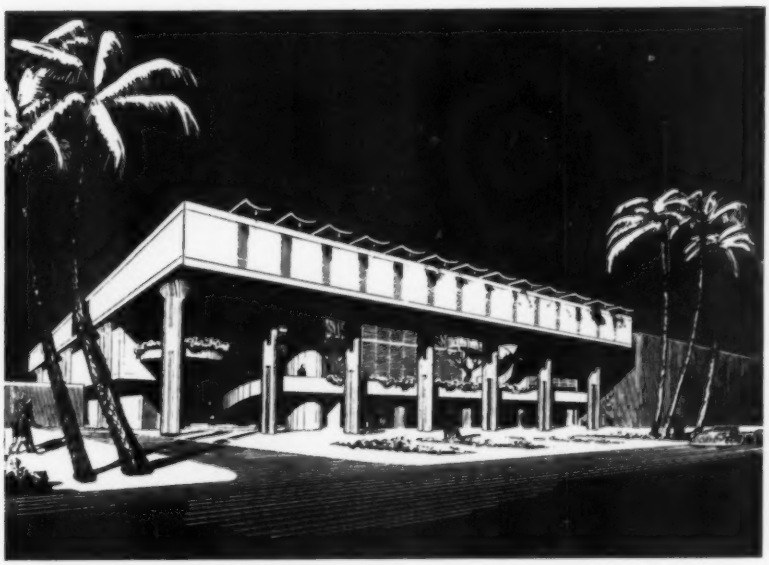


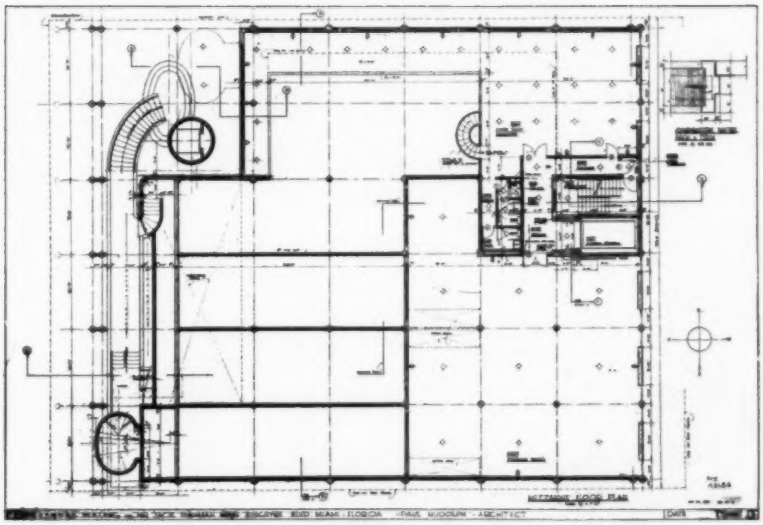






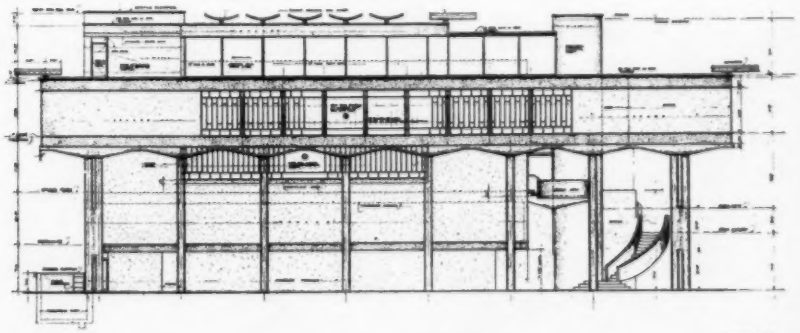




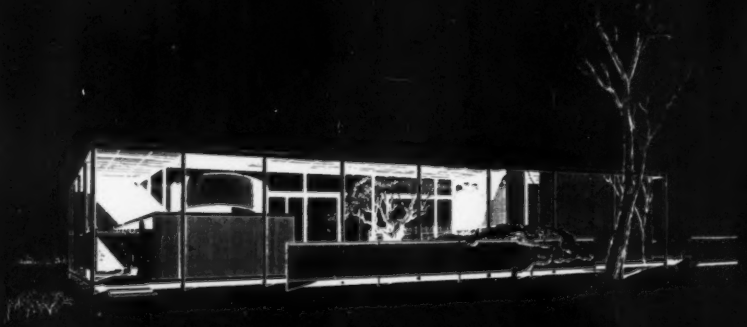


THE BRAMLETT COMPANY BUILDING, MIAMI

AROUND A SECOND-FLOOR PATIO open to the sky the exhibition spaces of this hotel and restaurant kitchen-equipment manufacturer are organized so as to use the space for both exhibition and circulation. A free-standing, circular elevator, "bridged" to the various levels, including a mezzanine, rises from the ground-floor store area. Plastic use of reinforced concrete was a prime design motivation. *Obler and Clark, Structural Engineers.*

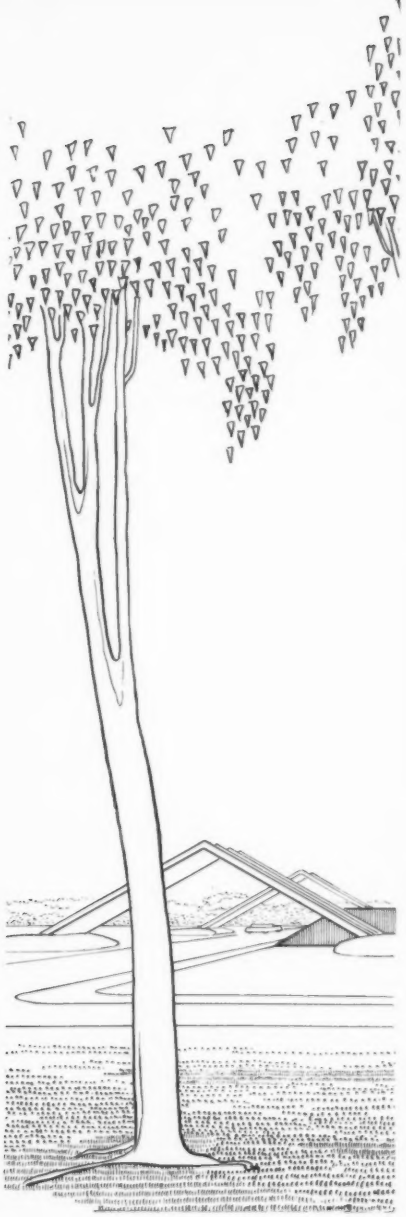


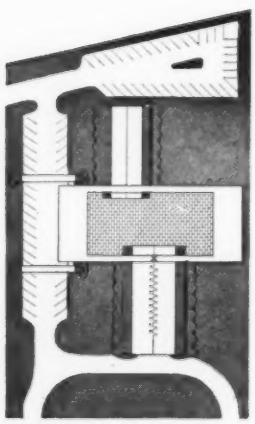
STAND FOR DOUGHNUTS, TAMPA, FLORIDA



APARTMENT HOUSE, SARASOTA, FLORIDA

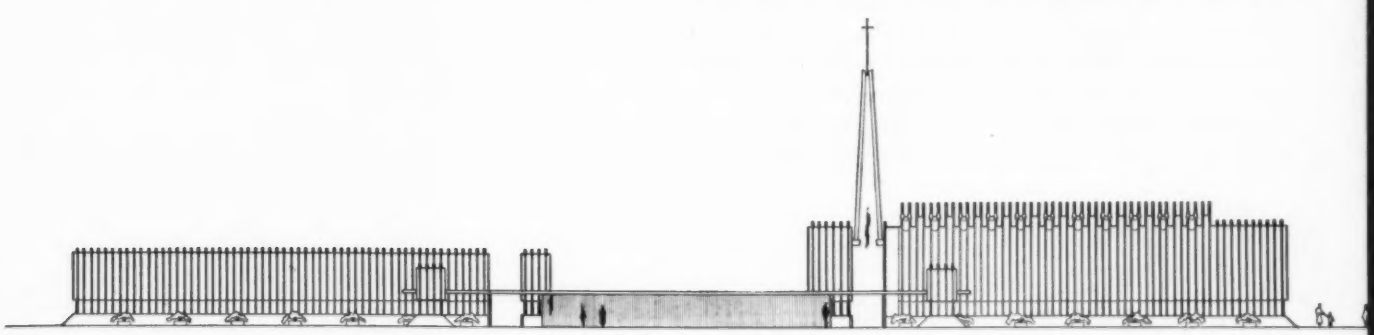
PUBLIC BEACH DEVELOPMENT, SIESTA KEY, FLORIDA





ST. BONIFACE EPISCOPAL CHURCH, SIESTA KEY, SARASOTA, FLORIDA

FOR A REMOTE SITE on Florida's west coast this parish specified a pitched roof in reinforced concrete. The ribs of the inverted precast double-T roof slabs are extended beyond the continuous glass sidewalls and received by parallel 30-in.-high mounds of earth. Fern beds between mounds and glass will be partially screened by the ribs and along with them will act to filter the light. A series of clerestories between the ridge-line extension of the ribs will introduce colored light into an interior featuring an alternately red and purple banded ceiling and walls of shell-encrusted concrete tiles. An off-white stucco exterior will carry spaced ceramic tiles. The parish house unit will be completed in a subsequent stage.

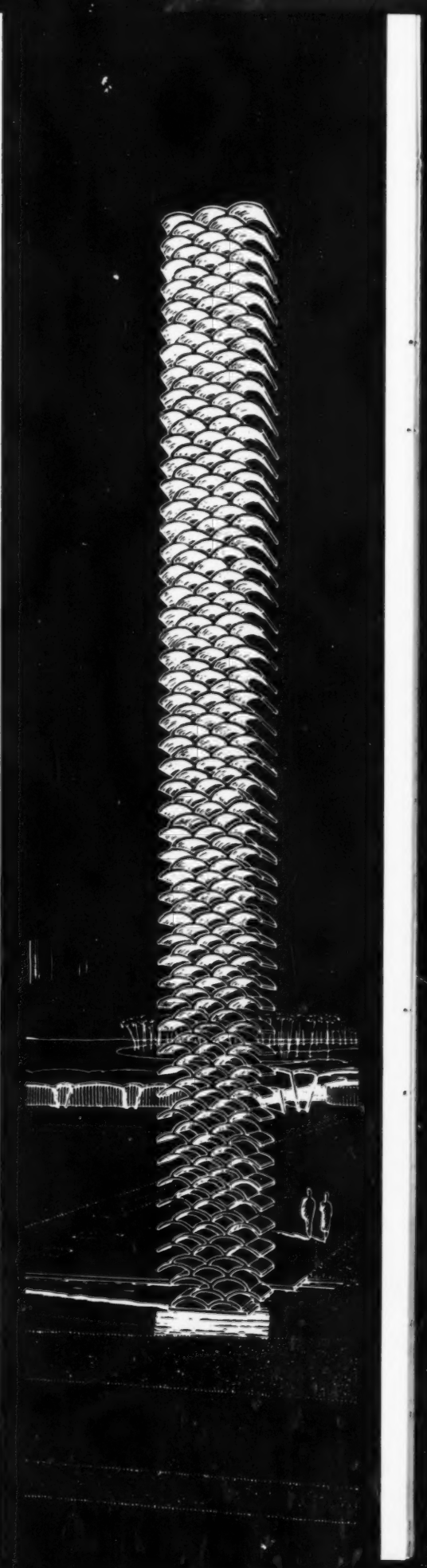


To those who are familiar with the previous work of Paul Rudolph — and there must be few young architects anywhere who have been more published in the last ten years — it will be evident that in the recent expansion of his practice he has been able to realize still more fully the characteristics which marked the architecture of his houses. The new work — although still in project form — promises a considerable ability to appeal to the mind and stimulate the senses without sacrifice of significant utility.

On the basis of his houses alone it might sometimes have been difficult to detect that his respect for the utilitarian needs of his clients equalled his concern for other functions. Since any house program is an acutely individual matter, the degree of its satisfaction cannot easily be judged by those not privy to the specific way of life and range of values. But in the non-residential design on these pages it is apparent that Paul Rudolph is no more grandly oblivious to the specific uses of a building than he is intimidated by them. For too many architects the itemized requirements of a program become immediately the itemized excuses for mediocrity. For others the requirements seem never to have been itemized. For Paul Rudolph it appears that there are few demands in a building program not germane to his search for an architecture which can satisfy man at the several levels of his appreciation.

But while accepting and answering the unique instructions of a specific program, this architecture is not limited by them. It is an architecture which goes on to concern itself as well with those relationships of size and shape and surface which can speak directly to the senses. It possesses, almost always, that studied intricacy of parts within a frame of comprehensible unity which renders it at once rich *and* simple: Rich through the elaborate profiles and abundant surfaces which achieve both fine scale and plastic spaces; simple through the discipline of strong, overall shapes and the insistent regularity of its principal structural parts.

Finally, these very sources of sensory satisfaction can be accepted — at the level of intellectual appreciation — as appropriate to the time and place and purpose of the buildings. This architecture seems to welcome the products of technology — both its materials and methods — and when it is in Jordan it is equally sensitive to the level of building means there. It recognizes, too, the genius of those places where it is to stand. These buildings are alive to the determining role of climate and wind and sun and in consequence can develop out of the natural as well as the man-made environment a high degree of individual character. A character which is evolved from the buildings' purposes as well. The refreshing absence of a stereotype in these projects bears significant witness to concern for harmony between form and functions, whether these be read at literal levels or in terms of symbols well known and much needed. Perhaps it is in this last that the architecture of Paul Rudolph suggests its greatest strength. For it addresses the tension inherent in our attraction to the new and the equal pull to the known. It deals with the new and is not bizarre. It deals with the known and is not banal. It promises a provocative resolution of both the new and the known.



OFFICE BUILDING NEAR WALTHAM, MASS.

Middlesex Mutual Building Trust, Owners. Architects: Anderson, Beckwith & Haible. Engineers: Structural, Cleverdon, Varney & Pike; Electrical, E. P. Mahard; Plumbing, J. M. McCusker Assoc.; Mechanical, Delbrook Ventilating Co.; Acoustical, Bolt Beranek & Newman. Landscape: Kelsey-Highlands Nursery

MIDDLESEX MUTUAL OFFICE BUILDING

THE DOUBLE CLIENT for this suburban office building was two insurance companies which have much in common, including sharing the work of certain departments such as management, financial, personnel and service. Both companies have many branches and district offices here and abroad; the Waltham building houses both their home and branch offices. It was the expressed desire of the client to achieve a significant advance in office building design, to provide an attractive atmosphere and an environment which would still be ahead of the times 25 years hence — a building pleasing to see, comfortable and restful to work in, highly efficient for conducting business.

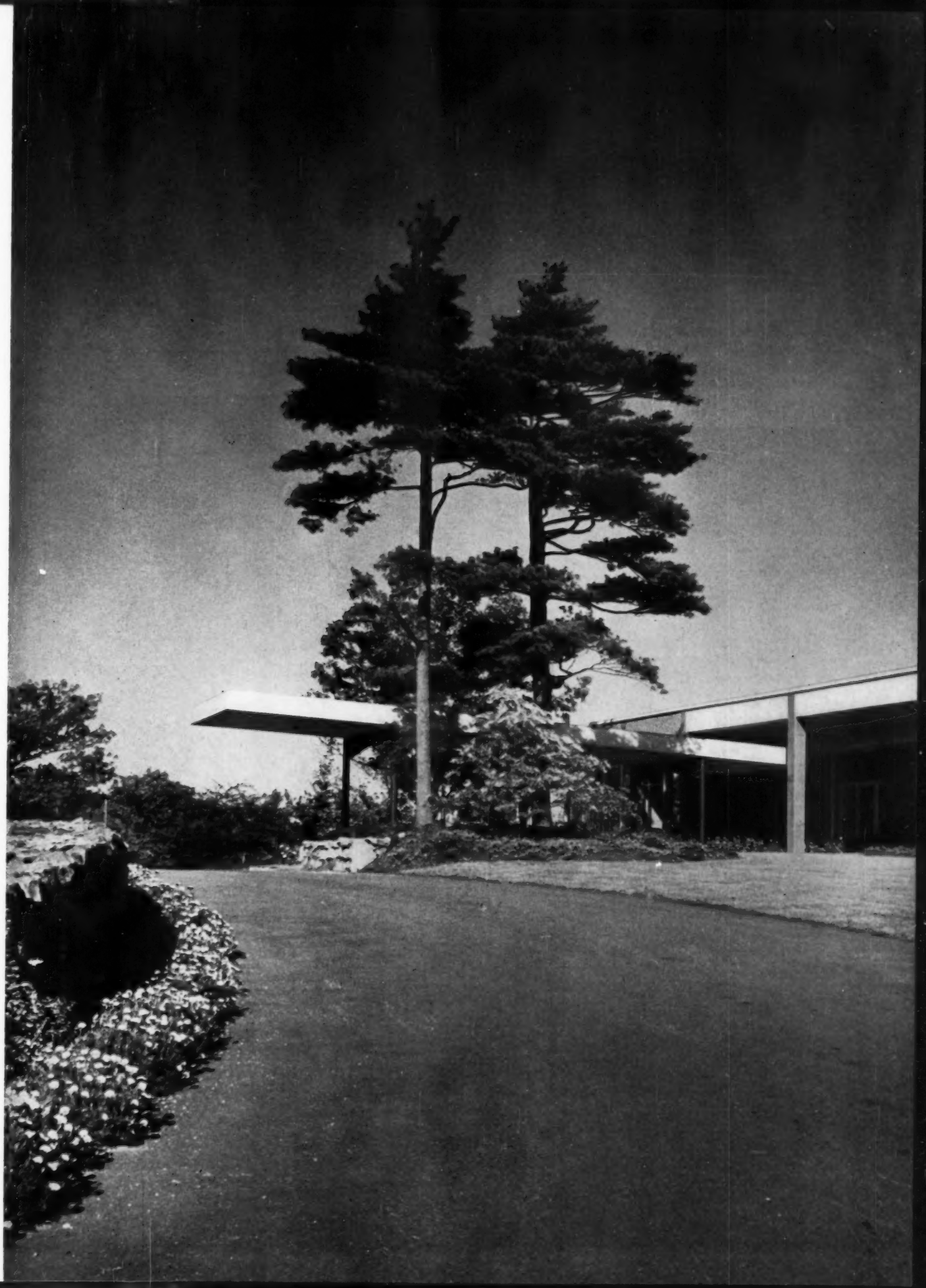
Company operation did not depend in either case on a Boston business address, so an 84-acre site was acquired on the belt highway, Route 128, which encircles Boston at some distance in the country. The building overlooks a large reservoir from its hilly setting in an area carefully zoned for limited commercial use under an effective ordinance which limits type of occupancy, restricts building coverage to 20 per cent of the land, requires one quarter of the site to be landscaped and sets maximum height of structure at two stories or 35 ft.

The natural landscape has been guarded and turned to advantage; many existing trees and shrubs were included in the overall concept; and such refinements as depressing the parking space for executives' and visitors' automobiles, in front of the building, were added in developing the site.

Lawrence Lowry

Air view shows multi-floor organization around central court. Above, reception lobby; right, main entrance

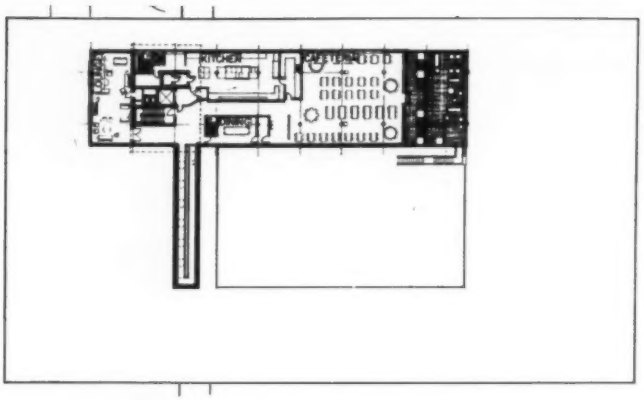
Photo opposite page, Louis Reens

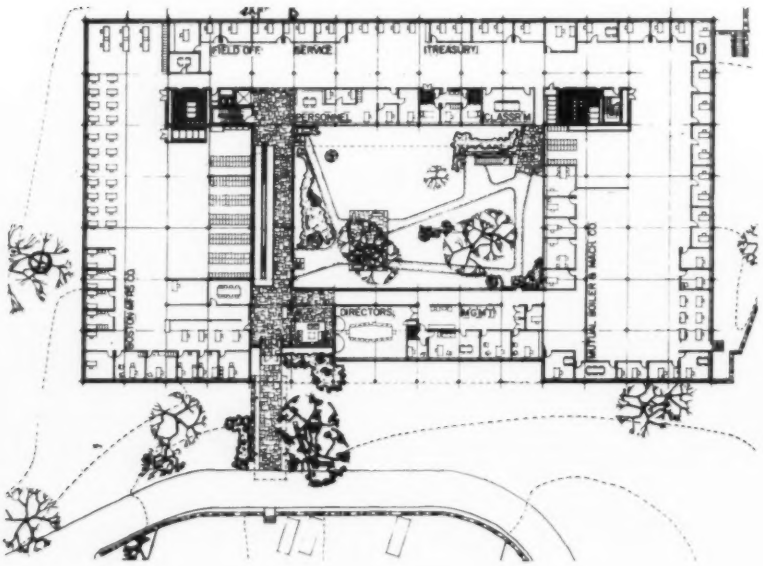


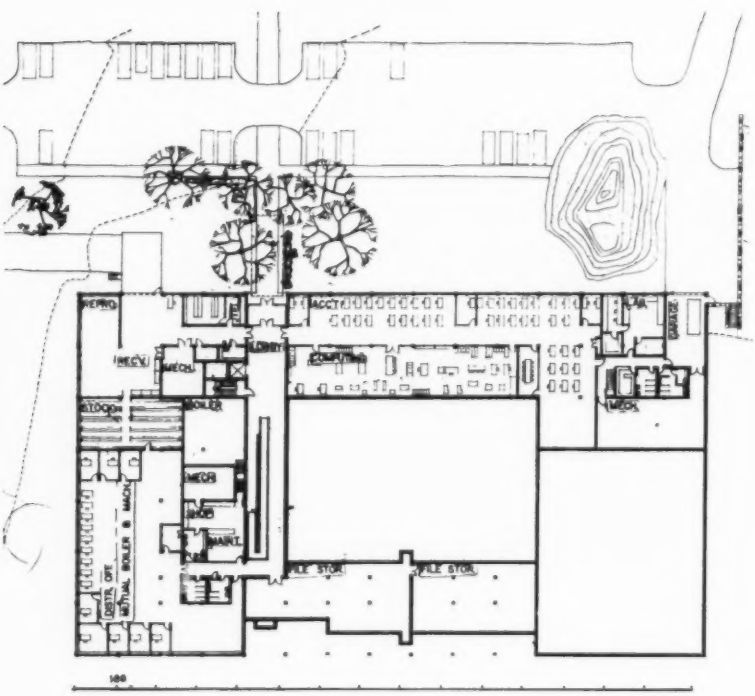
MIDDLESEX MUTUAL OFFICE BUILDING

Ramps connect the two working levels with cafeteria level, have handled well the circulation of numbers of people at lunch and closing hours

Louis Reens







The two clients for whom the building was designed are the Boston Manufacturers Insurance Company and the Mutual Boiler and Machinery Insurance Company, both old and respected businesses which have had common management for some years. In building design a 5 ft. module was used, with movable partitions, sprinkler system, underfloor ducts, lighting and air outlets accordingly located — a fact which proved valuable within only a few months after occupancy, when office changes became necessary. Structure has steel frame, metal spandrels, aluminum sash, cellular steel upper floors.

MIDDLESEX MUTUAL OFFICE BUILDING

Louis Reens

Penthouse cafeteria and lounge were included for benefit of employes, many of whom come from Waltham or Boston

Hedrich-Blessing

A RESIDENCE OF EXCEPTIONAL DISTINCTION

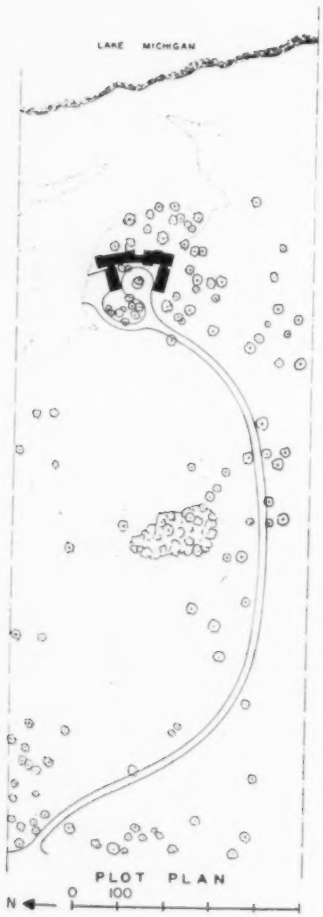
Lake Bluff, Illinois

George Fred Keck
William Keck
Architects

Alfred Caldwell
Landscape Architect

As the photo above so strongly indicates, this is a house of quality and individuality. Its pleasing contrast of glass and brick, its adaptation to site and view, and its well-zoned plan are almost incidental to its fine detailing and many unusual features. It is a house which deserves close study.

THE HOUSE IS SITUATED at the top of a bluff on the west shore of Lake Michigan, a few miles south of Waukegan. On the one side a long, tree-lined drive connects it with the main road; on the other a deep ravine separates it from the water's edge. The easterly view was the only site problem.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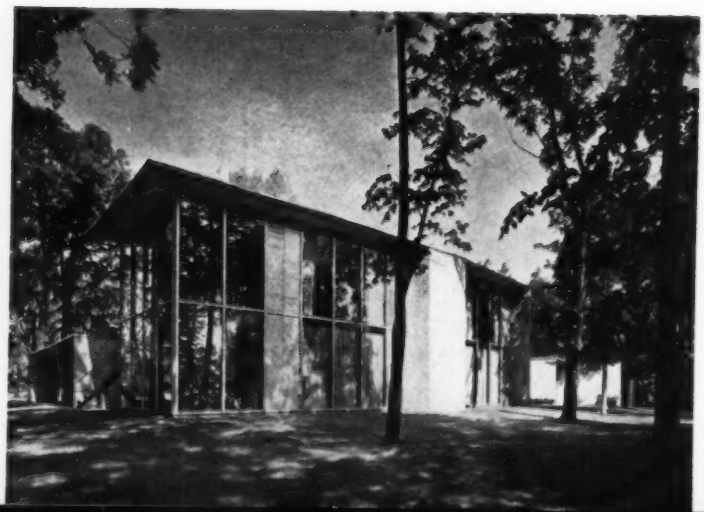
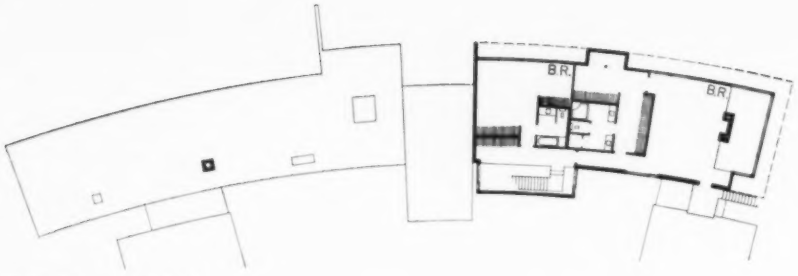


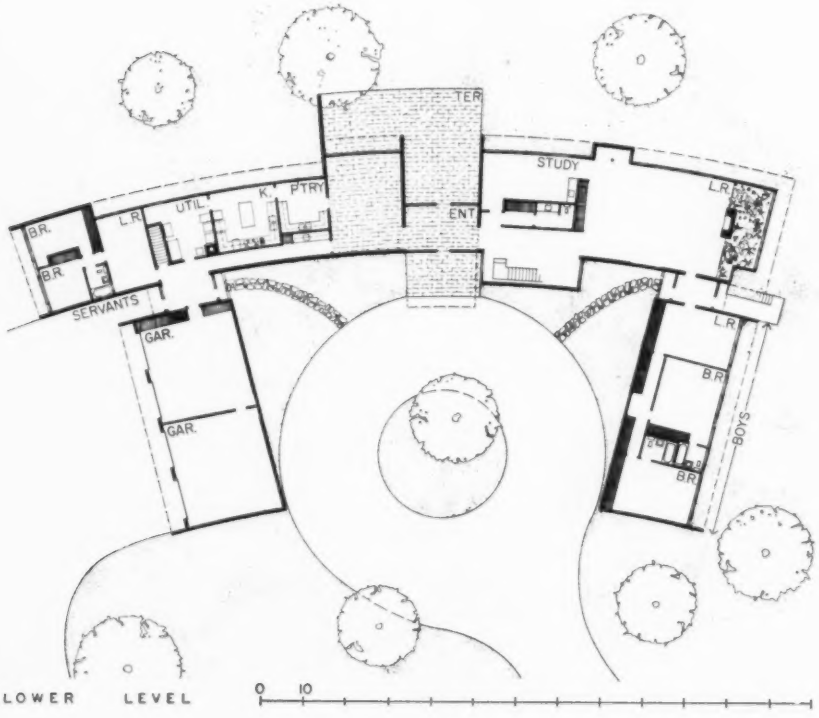
Hedrich-Blessing

The house was placed at the maximum height of the property not only for the lake view but also because here the land was level and well-wooded. A curved plan (radius 300) was chosen to fit the location: all main rooms thus can enjoy the view without being troubled by the sun from the south.

Construction is fireproof: exterior walls are brick, bone-white in color, laid double stretcher and header throughout; all exterior trim is aluminum, with aluminum adjustable shutters operating from the inside; large glass areas are all double-glazed and sealed, and further thermal insulation is provided by a special sprayed-on preparation.



UPPER LEVEL



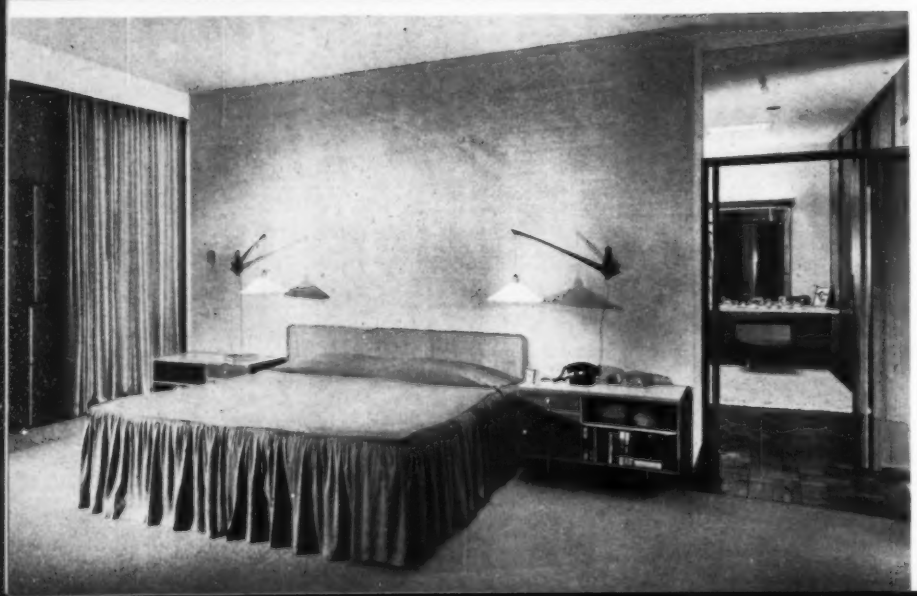
LOWER LEVEL

Hedrich-Blessing

Plan-wise the house is perfectly zoned: a central entrance hall is flanked by the kitchen and servants' wing on one side and the main living area on the other; the master bedroom suite is over the living room, sharing its view of the lake and the two-storied planting area; the boys' bedrooms and living room occupy a virtually separate wing with direct access from the driveway and garage.

Floors in the living room, study and stair hall are of white oak parquet; dining room floor is black slate. Wall finishes are plaster, painted or covered with grass cloth. The fireplace wall is marble with soapstone trim.

Hedrich-Blessing



The boys' suite (top two photos) consists of two bedrooms and a central living room with built-in TV and storage areas. Flooring is plastic. Ventilating doors, used throughout the house, are shown closed in photo of boys' bedroom and partially open in master bedroom at left. Built-in cabinets and doors are all rift white oak in natural finish. Heating is radiant hot water in floors and ceiling coils

THE DESIGN OF PERSIAN GARDENS

By ***DONALD WILBER***

ABOUT THE YEAR 1300 when Marco Polo passed through Tabriz on his way to China he noted that the Persian town was girt round with charming gardens, and before the end of that same century Hafiz, the lyric poet of Shiraz, was exclaiming:

> *"Oh! Bring thy couch where countless roses*
> *The garden's gay retreat discloses;*
> *There in the shade of waving boughs recline*
> *Breathing rich odors, quaffing ruby wine!"*

And the roses still bloom around his garden tomb (*Figure 1*).

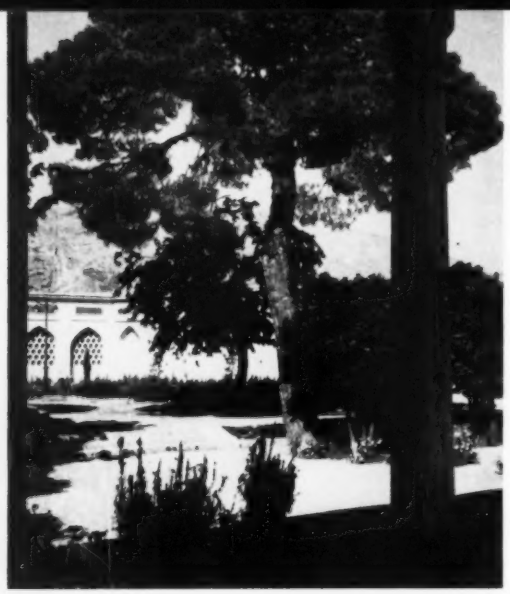
In the early 15th century the great Tamerlane rested from his conquests in the gardens of his capital, Samarqand. A chain of these orchards and gardens was strewn around the town, and he was wont to move from one to another of them, holding court upon a throne placed under an awning of the costliest carpets, or taking his private ease in a pavilion hung with bright silks and gold brocades. The deep delight in life in the open persisted, and in the early 17th century, after Shah Abbas had established his reign at Isfahan, a traveler from far-off London had this to say:

"For thirtie days continually, the King made the Feast in a great Garden of more than two miles compasse, under Tents, pitched by certain small courses of running water, like divers Rivers, where every man that would come, was placed according to his degree, either under one or other Tent, provided for abundantly with Meats, Fruit and Wine, drinking as they would, some largely, some moderately, without compulsion. A Royaltie and Splendour which I have not seen nor shall see again but by the same King."

For centuries such gardens endured, and early in this one an American architect was drawn to them: the young Bertram Goodhue has left us his essay, "Of Persian Gardens," illustrated by eight masterful pen-and-ink sketches of the gardens at Shiraz. The design and character of these gardens had a definite message for Goodhue; have they any such meaning for us? Certainly, and a more precise one, for in these very recent years as our summer living moves out of doors we need to know how the Persians developed the handling of water, shade, and shelter in a unique fashion.

It is important to look at Persian gardens right away, for many of the fine old ones are threatened with extinction. As the towns spread out the gardens are cut up and give way to apartment houses; thus, the vast Qasr-i-Qajar just north of Tehran has entirely disappeared. In addition, Western features such as formal flower beds and expanses of lawn appear with increasing frequency. However, the conditions under which Persian gardens reached their finest expression remain unchanged.

Iran spreads over an area as large as the eastern United States, and its upland valleys which rise 5000 feet and more receive only a dozen inches of rain a year, none from April until November. Throughout most of the country field crops must be irrigated, and all gardens must have their perennial water supply. Water comes from springs, from mountain streams, and from a unique system of exploitation called the *qanat*. In this system advantage is taken of the fact that the winter snow on the ranges melts and seeps down to establish a water table at the base of the abrupt mountains. A mother well is driven into this water table and from this point a slightly inclined tunnel is dug in the direction of the village or town requiring water; a series of vertical shafts provides air to the diggers and a means of disposing of the debris. Carrying flowing water throughout the year, the tunnel emerges on the surface uphill from the village, and its precious burden is led into open channels which flow through gardens,



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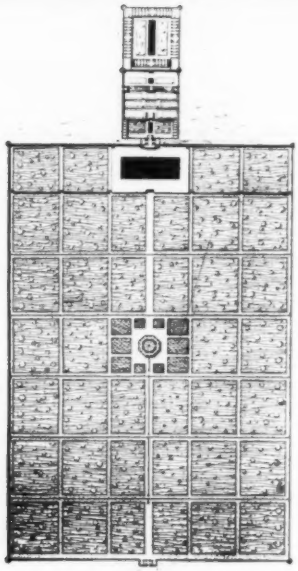

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THE DESIGN OF PERSIAN GARDENS

turn mills, line the village lanes, and spread over the fields of grain on the lower slopes.

Water gives the garden life, and the long water axis — a standard design feature — emphasizes its role. Dense foliage shades the water, and high mud-brick walls shut out the arid landscape. Moisture, shade, and coolness — the garden furnishes just those things which are most prized in a denuded, arid, burning land.

Royal gardens display all the characteristic Persian features; some featured palaces at which the court remained in residence for months at a time, while others were scattered along the main highways, always in readiness when the cortege of the ruler passed that way. Traveling or at home, royalty and commoners spent a very large part of their time in gardens, and the most important single fact about Persian gardens is that they were to be lived in rather than walked through.

The Qasr-i-Qajar, or Castle of the Qajars, was built on a slope above Tehran before 1800, and the restored plan has been compiled from the sketches and descriptions of a number of European travelers (*Figure 2*). The castle stepped down the hill in a series of terraces, with the topmost rectangle housing the royal harem. From these terraces the vista was across a great pool and over many acres of cultivated orchard and woodland. At the center and on the long axis was a pavilion of marble, brick, and painted plaster (*Figure 3*). By the middle of the 19th century the garden had begun to fall into ruin — as the sketch shows — and today the structure on the hillside is an irregular mound of bricks.

In contrast with Tehran, Isfahan proudly displays a royal garden pavilion in excellent condition. The Chehel Sutun, or Forty Pillars, was built shortly after 1600 as an element in the imperial city commanded by Shah Abbas. Nearby, a vast public square, faience-clad mosques, and a monumental entranceway to the palace and garden area survive in all their early splendor. The plan arrangement of the garden is typical, except for the fact that there are two competing water axes (*Figure 4*). The plan of the pavilion itself (today the archeological museum of Isfahan) reflects its functions — smaller rooms for private living and reception, and one vast, lofty hall for nightly entertainment. Most masterly is the manner in which free space is gradually reduced and contained through successively smaller areas each less open than the one before it. On many pleasant mornings when Shah Abbas sat in audience on a bed-throne placed in the niche behind the porch, his view passed over pools and fountains to the soaring minarets and domes of the Imperial Mosque, the Masjid-i-Shah, constructed at his order (*Figure 5*).

Gardens which featured an artificial lake are found throughout Iran and were made possible by the existence of copious hillside springs. Quite typical is the Shah Gol, or Royal Pond, situated near Tabriz and in existence at least as early as 1785 (*Figure 6*). From the terraces the view takes in the octagonal pavilion and across the lake, which appears almost to be suspended above the barren landscape; again an abundance of water challenges the aridity of nature (*Figure 7*). Certainly this type of garden was in vogue in Iran long before the examples of known date, and it was this design form that influenced the renowned gardens of Kashmir and Lahore in India.

Private landowners were apt to create less formal plans in the midst of their orchards and their money-crop forests of poplars. This is the case at Fakhrabad, near Tabriz, where the axial water channel flows through pools of varying size and shape to plunge into a huge, deep-set pool hemmed around with enormous plane trees (*Figure 8*). A modern house, without character, has replaced an earlier pavilion.

Typical of the town house and garden is the old

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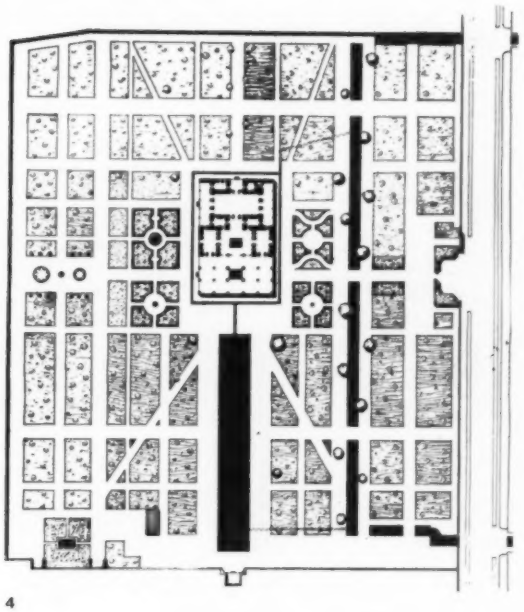

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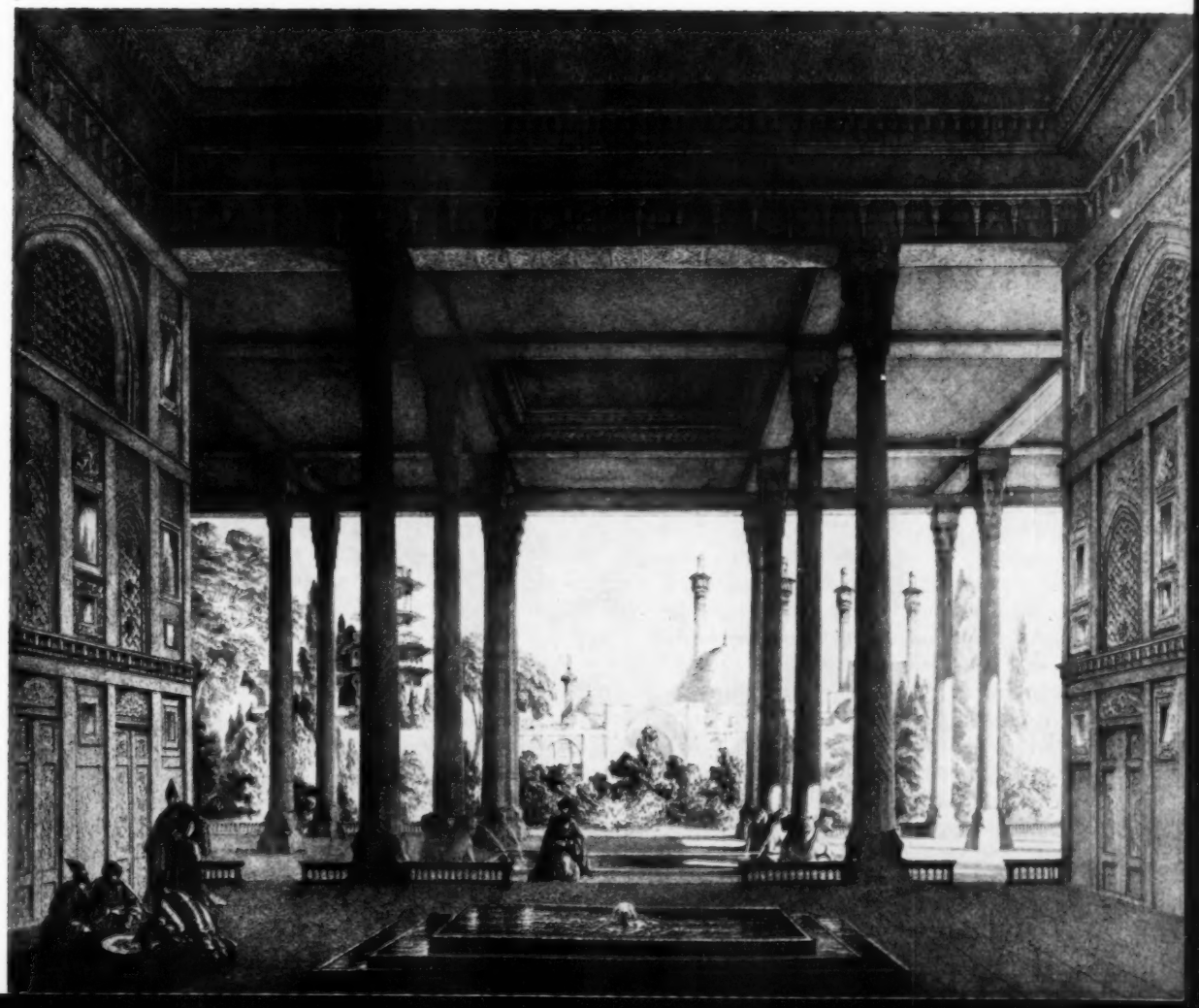

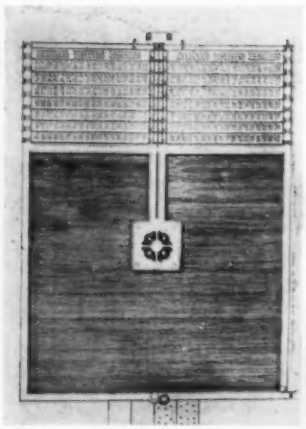

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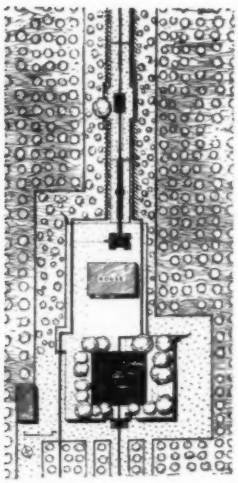

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THE DESIGN OF PERSIAN GARDENS

Divan Khaneh at Shiraz (*Figure 9*). Every feature reflects long-established usage: the right-angle turns in the entranceway to give privacy; the high lateral walls; the location of servants' quarters and kitchen flanking the entrance; the elevation of the principal rooms above the level of court and pool; and the orientation of these rooms toward the south. The longitudinal axis may be marked by a water channel or by a flower-bordered path, while the side areas display cypresses, fruit trees, and pomegranate bushes. Decorative panels in carved stone or glazed tile accentuate selected areas; in the Divan Khaneh the niche masking the entrance depicts servants offering the produce of the garden (*Figure 10*).

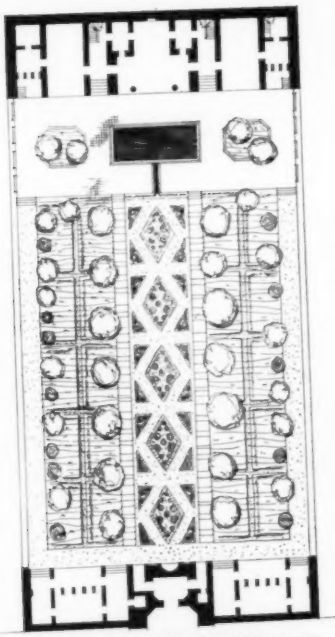
All older houses and pavilions display a series of rooms facing south and elevated from a few steps to a full story above the level of the pool. A fine example at Shiraz is the Bagh-i-Aram, shown in a 50-year-old photograph (*Figure 11*). From the central porch the view is prolonged for several hundred yards down a water alley flanked by great cypresses, while from the room behind the porch the view is up and into the hills beyond. The lower level offers another characteristic feature — a water-cooled summer room. The main water channel of the garden flows directly through the room, in and out of a bubbling pool with its playing fountain.

Another variant of this general type is represented by the Golestan palace at Tehran, shown in a drawing made about one hundred years ago (*Figure 12*). The architectural arrangement was admirably suited to the climate of Iran: in the heat of summer there was always shade within the deep central porch, and the great awning could be stretched forward so that it projected over part of the pool itself. In the winter the low, bright sun flooded into a kind of a heat trap — often the walls were lined with mirrors — and one could sit there in comfort on the chilliest days.

While the plans and photographs mentioned above have illustrated the principal design elements, it is necessary to concentrate on the details in order to isolate features that lend themselves to modern adaptation. Emphasis has been placed upon the consistent interest in contrasting the order and clarity of straight channels, tended pathways, and narrow beds of flowers against a jungle-like background of bushes and trees. In the larger gardens it is easy to wander a few yards from the pavilion and be lost in a growth far denser than nature unaided could produce. Indeed, it was just this contrast that led the Persians to compare their gardens with Paradise itself. In the words of one of their poets:

"This playing fountain like the hand of the Shah
Fills earth and sky with a shower of pearls.
I asked, 'Is this the life-giving water?'
And the answer came, 'Yes.'
I asked, 'Is this garden Paradise?'
And wisdom replied, 'Certainly.'"

The very qualities of water are exploited to the full. Channels are commonly lined with blue enameled tiles and so pitched that the water gushes merrily along or tumbles down inclined slides at changes in garden level. Pools are shaped in almost infinite variety and may display a single fountain or be crowded with jets fed by lead pipes so that the jets can be made to play in different combinations (*Figure 13*). At night candles sheltered in crystal globes were launched on the surface, while during the day the arrival of guests might be marked by scattering rose petals on the water to spell out words of welcome. Most ingenious and most interesting for modern adaptation is the manner in which the pools extend without apparent edges, as in a contemporary garden at Tehran (photo on *page 189*). This pool is constructed so that its stone slab sides rise



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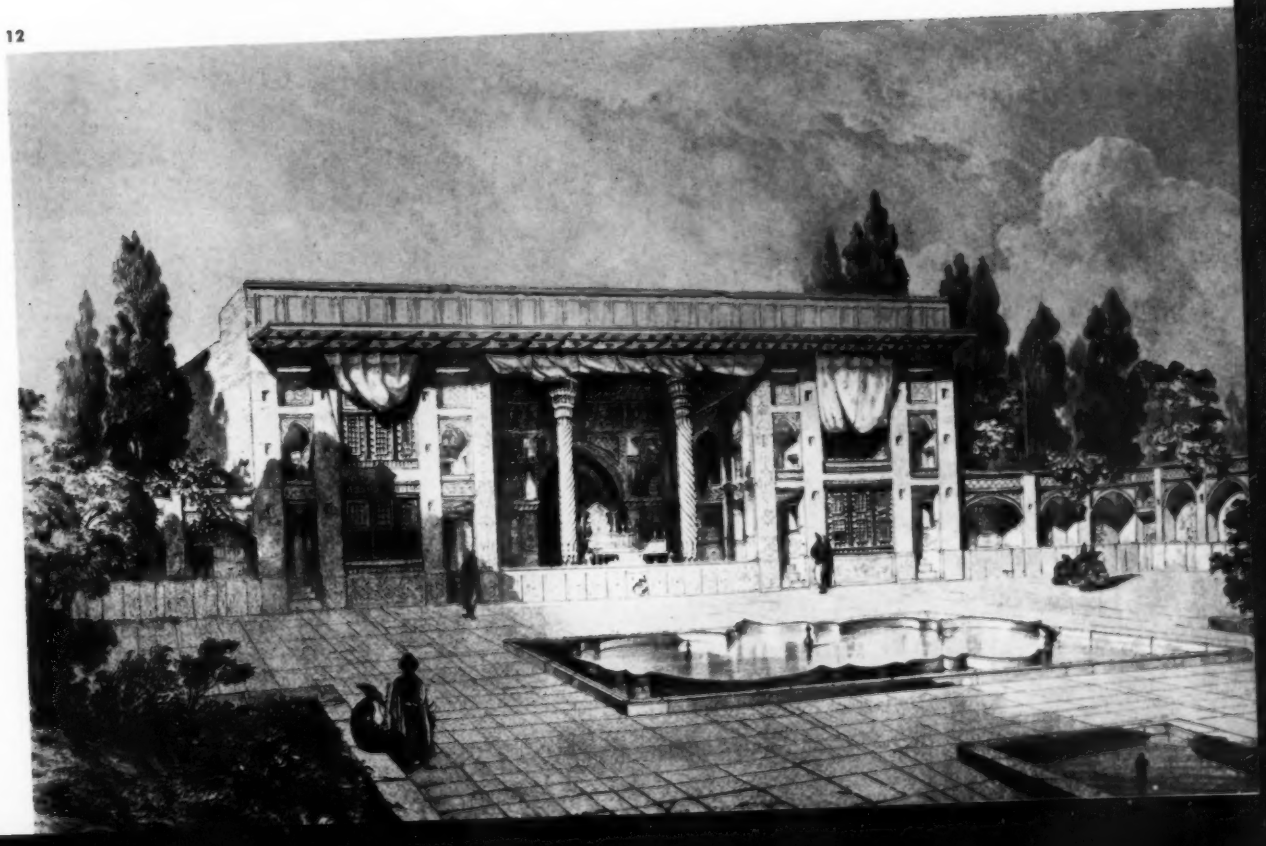

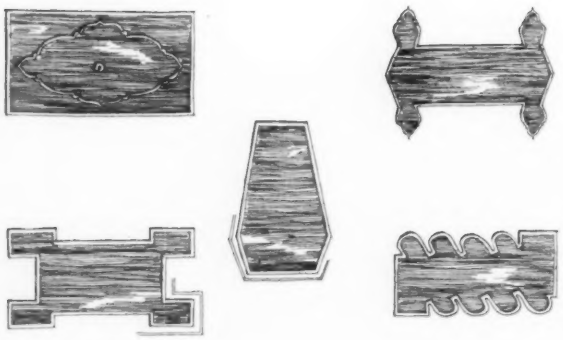

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THE DESIGN OF PERSIAN GARDENS

about a foot above the surrounding ground level while around these sides is an overflow gutter about a foot wide but only a few inches deep. As the pool is fed the water flows over every side; the eye is deceived and the scale of the pool seems vastly larger. Such a pool set under a domed pavilion in the royal garden of Fin, near Kashan, expresses the very essence of gushing, icy water (*Figure 14*), and at Tabbas, an oasis set in the midst of the desolate wastes of southeastern Iran, the pool of Paradise is ringed by both evergreens and palms (*Figure 15*). On a more modest scale, every Persian house has its own courtyard or garden pool, and if limitations of space are severe, the pool and its background area are bordered with potted flowers.

Among the many attractive features of the Persian gardens, only a few have been singled out in these few paragraphs. The fact that the gardens were meant to be lived in rather than walked through; the contrast between the formal axis and the background of wild foliage; the garden pavilion, decorated with color as bright as the very flowers; and the inexhaustible skill with which water was handled and emphasized. Flowers, used in a massed display, play a less vital role in garden design, although nearly all those common to our gardens appear in Iran. Indeed, the tulip, iris, and rose have been grown in Iran for many centuries and were introduced into Europe only in comparatively recent times. Renowned above all in the Persian garden is the rose, informally scattered about under the trees or massed in great bowers; all the great poets of the country sang in praise of the rose.

To the Persian the garden meant relief from inclement nature, a place of retreat from daily burdens and cares, and a foretaste of the pleasures of Paradise. These designs and features, resulting from centuries of development, are still unknown in the West and do offer a fresh approach to nature and fertile sources for atmosphere and appropriate detail.

AN OPEN PLACE AT THE HEART OF A CITY

Mitchell & Ritchey, Architects — *Simonds & Simonds, Landscape Architects*

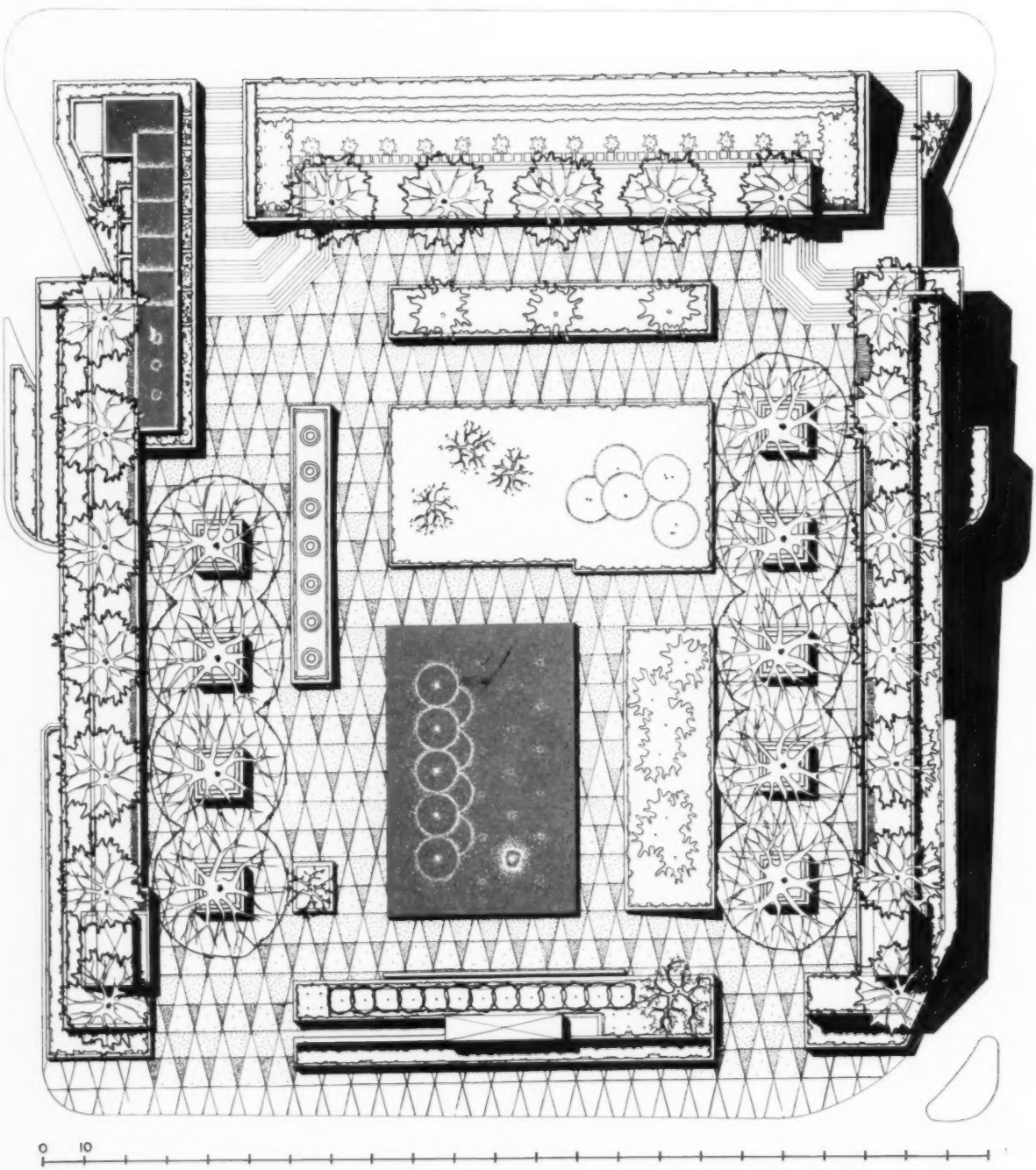
PERHAPS NO AMERICAN CITY has ever so much needed and, latterly, so much deserved a garden at its heart. This bright mosaic of water and terrazzo and green growth is giving back to the people of Pittsburgh something of their long-lost hill and river heritage.

Here is the light and open, the cool and almost quiet space so often urged by planners and so seldom reclaimed from downtown congestion. Here, too, is a foreground for the buildings that surround the Square: for the new Alcoa Building; for the buildings on east and west whose axial symmetries have so long awaited this vista; and, most appropriately, for the Mellon Bank and the U. S. Steel Building. For it was through the grants of three Mellon family foundations, as well as the auspices of an enlightened city administration, that the 1.37-acre park and its six-level underground parking garage were realized.

Eighteen hundred cars a day crawl in under the slightly inclined floor of the park. Twentieth-century beetles burrowing under a twentieth-century garden. The drop in the street elevations from east to west which allows insertion of a row of shops under the western edge of the park also leaves the garden elevated on all but its eastern side. Thus, unlike the most familiar plazas of Europe, it is a place lifted up, and through this it gains just that sense of removal so desirable for those seeking quiet instead of shortcuts. Mellon Square Park is a notable achievement for all concerned.

From the hotel on its eastern side the entire park is revealed as a place of skillfully organized textures and volumes

Joseph Molitor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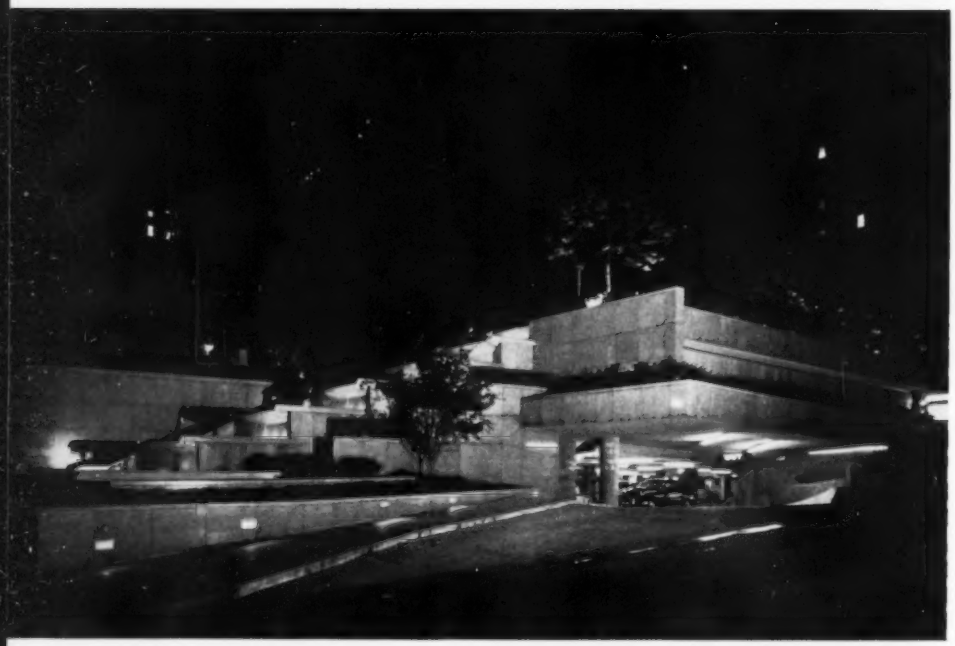
Elevation of the park is greatest along its western side where the approach up the steps is eased by the cascading waters

Looking north, the polished gray granite walls of the "hanging garden" are a strong base for the Alcoa Building at the right

Joseph W. Molitor

Triangular pattern in the terrazzo paving symbolizes Pittsburgh's famed "Golden Triangle" which lies largely to the west

Linden, Sweetgum, Honeylocust, Magnolia, and Boxwood are among the many varieties of trees and shrubs which have been used



At night the water, paved surfaces, and foliage are expressively lighted with soft blue (mercury vapor) spotlights

Joseph W. Molitor

In the large fountain pool are nine-foot, 3000-pound bronze basins; all gratings are aluminum; shops are at left

WAINWRIGHT BUILDING, St. Louis
Louis Sullivan

CARSON PIRIE SCOTT STORE, Chicago
Louis Sullivan

ROCKEFELLER CENTER BUILDINGS, New York
Reinhard & Hofmeister; Corbett, Harrison & MacMurray; Hood & Fouilhoux

LEVER HOUSE, New York
Skidmore, Owings & Merrill

TRINITY CHURCH, Boston
H. H. Richardson

PHILADELPHIA SAVINGS FUND SOCIETY BUILDING, Philadelphia
Howe & Lescaze

GENERAL MOTORS TECHNICAL CENTER, Detroit
Saarinen & Saarinen

LAKE SHORE DRIVE APARTMENTS, Chicago
Mies van der Rohe

S. C. JOHNSON & SON, INC., ADMIN. BLDG., Racine
Frank Lloyd Wright

MONADNOCK BLOCK, Chicago
Burnham & Root

DAILY NEWS BUILDING, New York
Hood & Howells

TVA NORRIS DAM & POWER HOUSE, Tennessee
Roland Wank, Architect-in-charge

BOSTON PUBLIC LIBRARY, Boston
McKim, Mead & White

STOCK PAVILION, Raleigh
Nowicki & Deitrick

CHRISTIAN SCIENCE CHURCH, Berkeley
Bernard Maybeck

WOOLWORTH BUILDING, New York
Cass Gilbert

CROW ISLAND SCHOOL, Illinois
Saarinen & Saarinen, with Perkins, Wheeler & Will

MANUFACTURERS TRUST BUILDING, New York
Skidmore, Owings & Merrill

UNITY CHURCH, Oak Park
Frank Lloyd Wright

NEBRASKA STATE CAPITOL, Lincoln
Bertram G. Goodhue

S. C. JOHNSON & SON, INC.; LABORATORY, Racine
Frank Lloyd Wright

UNITED NATIONS SECRETARIAT, New York
Wallace K. Harrison & Consultants

LINCOLN MEMORIAL, Washington
Henry Bacon

M.I.T. AUDITORIUM, Cambridge
Eero Saarinen

EQUITABLE BUILDING, Portland
Pietro Belluschi

ALLEGHENY COUNTY BUILDINGS, Pittsburgh
H. H. Richardson

UNIVERSITY CLUB, New York
McKim, Mead & White

CRANBROOK SCHOOLS, Michigan
Eliel Saarinen

MINERALS & METALS RESEARCH BLDG., I.I.T., Chicago
Mies van der Rohe

ALCOA BUILDING, Pittsburgh
Harrison & Abramovitz

MUSEUM OF MODERN ART, New York
Goodwin & Stone

PENNSYLVANIA STATION, New York
McKim, Mead & White

EXPERIMENTAL SCHOOL, Los Angeles
Richard Neutra

DODGE TRUCK PLANT, Detroit
Albert Kahn

100 MEMORIAL DRIVE APARTMENTS, Cambridge
Kennedy, Koch, DeMars, Rapson & Brown

CENTRAL LUTHERAN CHURCH, Portland
Pietro Belluschi

HOUSES

F. C. ROBIE, Chicago
Frank Lloyd Wright

E. J. KAUFMANN, Pennsylvania
Frank Lloyd Wright

TALIESIN WEST, Arizona
Frank Lloyd Wright

HENRY VILLARD, New York
McKim, Mead & White

WATTS SHERMAN, Newport
H. H. Richardson

AVERY COONLEY, Illinois
Frank Lloyd Wright

W. W. WILLITTS, Illinois
Frank Lloyd Wright

D. R. GAMBLE, Pasadena
Greene and Greene

PHILIP JOHNSON, New Canaan
Philip Johnson

WALKER GUEST HOUSE, Florida
Paul Rudolph

ELLEN SCRIPPS, La Jolla
Irving Gill

WESTON HAVENS, Berkeley
Harwell Hamilton Harris

LOVELL "HEALTH HOUSE", Los Angeles
Richard Neutra

EDITH FARNSWORTH, Chicago
Mies van der Rohe

9: HOUSES SINCE 1907

ELEVEN OF THE FOURTEEN HOUSES nominated by ARCHITECTURAL RECORD'S panel have been built in the past fifty years and are presented herewith. The three built before 1907 were published in the fifth installment of this series and included the first of the five houses with which Frank Lloyd Wright dominates the residential selections.

His Robie and Kaufmann houses, built a generation apart in time and in form, are nevertheless tied for first place in the voting on houses and his Taliesin West is placed second. The beautiful Avery Coonley house, voted fifth among all houses, is third among those since 1907.

Interestingly Wright is not represented by any house built since 1941. In that fifteen year period only examples by Johnson, van der Rohe, and Rudolph were nominated frequently enough to be listed.

Often several houses by one man were voted without any single house gaining enough votes to qualify. Since the total work of one man may well have significance beyond any single work of another the natural shortcomings of this kind of polling are revealed.

In this connection it must be noted here that several houses of Schindler, Gropius and Breuer, Wurster, the Kecks, and Belluschi were nominated more than once though none as often as those on the following pages.

Of those architects represented here many — it may be felt — are not represented by their best work. Neutra may serve as an illustrative case in point. If this is true the explanation certainly lies in the fact that the panel has recognized that often an earlier essay is more significant in terms of its impact than some later, more matured and refined, example. In any event these are the architects, if not always the particular houses, who have most influenced the vigorous and imaginative design of houses in America today.

F. C. Robie House, Chicago, 1909, Frank Lloyd Wright.
(Tied for first)

"The Robie house created at the domestic level something new to the eyes of 1909 Chicago, supplanting the symmetrical classicism of the day by an asymmetrical monumentality. In the structurally expressive use of piers, wall planes, and strips of windows all clustered about a central chimney, one senses an unusual coherence of planning. Visually this produced a bold interplay of forms with strong horizontals at different levels, originating in but leading away from the dominant vertical. The fenestration represented a radically new concept, with its almost continuous light source interrupted only by structural piers and amply shaded by wide eaves; the logical outgrowth of a harsher climate to which the conventional New England window had never been properly suited. One senses Wright's complete mastery in this house of that low-lying, horizontal type of dwelling which he had originated and named the 'Prairie House.'" ***Alan Burnham***

"The Robie house is the culmination of Wright's 'Prairie Style,' and a milestone in the history of modern architecture because of its organically flowing space in which rooms are no longer conceived of as boxes. Because it still contains so much of the furniture originally designed for it, the house can still display to an unusual degree the great architect's original conception of it." ***Donald D. Egbert***

"The slender, extended Robie house has long been thought of as a masterwork of Wright's 'Prairie Style,' but few have realized the exceptional tribute it received in being wittily paraphrased by a leading younger architect forty years after its erection. Was the paraphrase conscious? It is successful. Compare if you will the first house Marcel Breuer built for his family at New Canaan to the Robie. In both the main floor is lifted above grade. In both cantilevered ends project. In both an off-center stairwell winds around a chimney mass, emerging into the full expanse of the main living area. In both this vertical feature divides living from dining. In both the chimney breast is opened through to free the flow of space and view along the principal axis of organization. In both the long window stretch is sheltered by an overhang. And both are most pleasant experiences. It is a theme for a house that shouldn't stop with two architects, now that its versatility is established." ***Edgar Kaufmann***

Hedrich-Blessing

Hedrich-Blessing

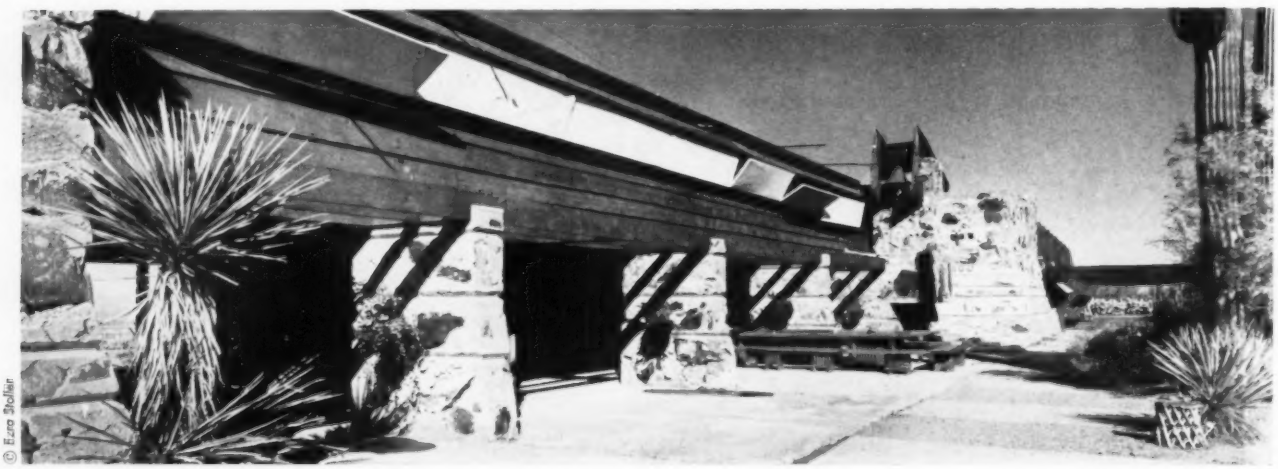
***E. J. Kaufmann House, Bear Run, Pennsylvania, 1936, Frank Lloyd Wright.* (*Tied for first*)**

"The same skill in adjusting a house to its environment that is shown in the Coonley house received quite a different expression in the famous Kaufmann house that overhangs a little waterfall in Pennsylvania, and there is in it the same conscious command of axes, of views, and the same skillful balance. Yet, if the expression of the Chicago house is that of a rather urban elegance, the expression of the Kaufmann house is one of extreme sophistication completely at home in the most primitive surroundings. The great gray rocks, leading to the rough stone chimneys and end walls, enframe the long suave white horizontals with stunning effect, and the large spaces within open to the outside in ways that make the interior as well as the exterior integral with its Allegheny mountain site." ***Talbot F. Hamlin***

"Taliesin West," Phoenix, 1937 to date, Frank Lloyd Wright. (Second)

"To make a visit to Wright's caravansary in the Phoenix desert is an experience in color, light, and time. The reds, oranges, and grays of the desert stone heaped into the battered walls; the natural colors of the exposed roof trusses; the tawny textiles and rugs; most of all the dusty greens of the gardens: all seem a part of the duns of the desert distances which surround it. Within the great rooms, such as the drafting room or the recreational 'Garden Room,' one shelters from the harsh outdoor sunlight, and yet through the canvas roofs it is transmuted into an ambient light of indescribable softness. Most of all, the building is an experience in time: the approach terraces, the steps, the long walk under the pergola, the penetration into the heart of the building itself: all these form a subtle sequence of varied spaces, scales, and shapes, opening and closing and opening again to give an unwonted sense of freedom. Perhaps never since the baroque period has the element of time been used so skillfully in realizing the enchantment of an intricate work of art."

Hugh Morrison



© Ezra Stoller

Avery Coonley House, Riverside, Illinois, 1908, Frank Lloyd Wright. (Tied for fifth)

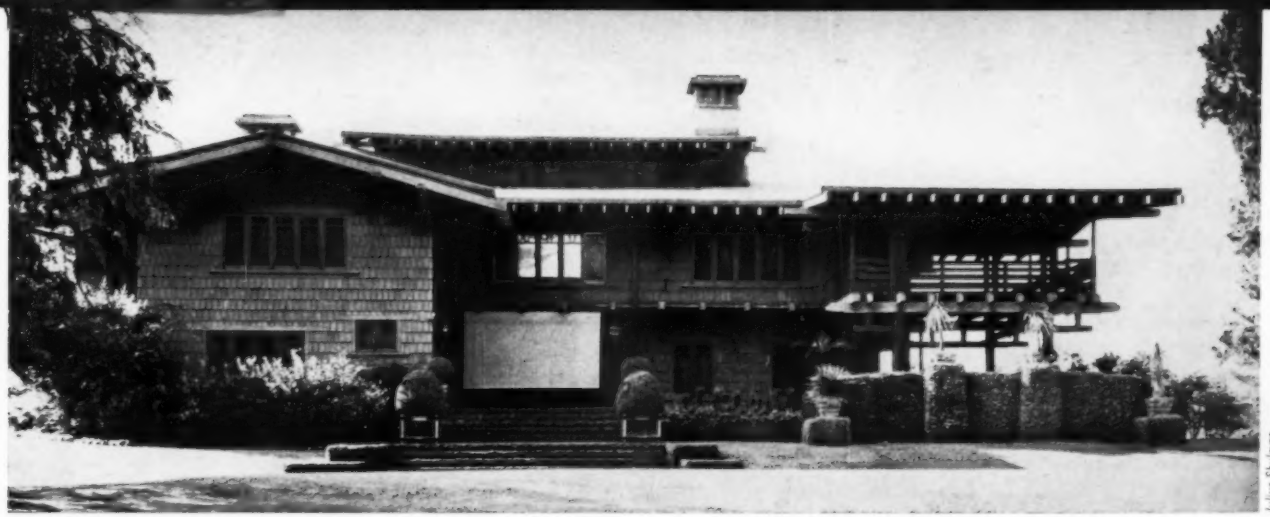
"Henry-Russell Hitchcock has remarked that, though Wright considers himself a romantic, actually he is also one of the greatest classic planners America has ever had. The Coonley house is superb evidence of this fact. It has the richness of an Italian villa and the same unity of architecture, terracing, and garden; yet the whole is also completely American, completely of its date, and without a trace of imported style."

Talbot F. Hamlin

"The Coonley house is at the top of the curve of Wright's residential work, and a high point in the total spectrum. The Willitts house, as a summation and as progenitor of many later houses, is surpassed in architectural quality and significance by the Coonley house, which is a departure from earlier types of plans and more functional in recognition of living requirements. Its richer and more complex spatial geometry and the use of permanent color decoration forecast later developments in Wright's designs for other types of buildings.

Walter A. Taylor

(Courtesy of House Beautiful Magazine) Maynard Parker

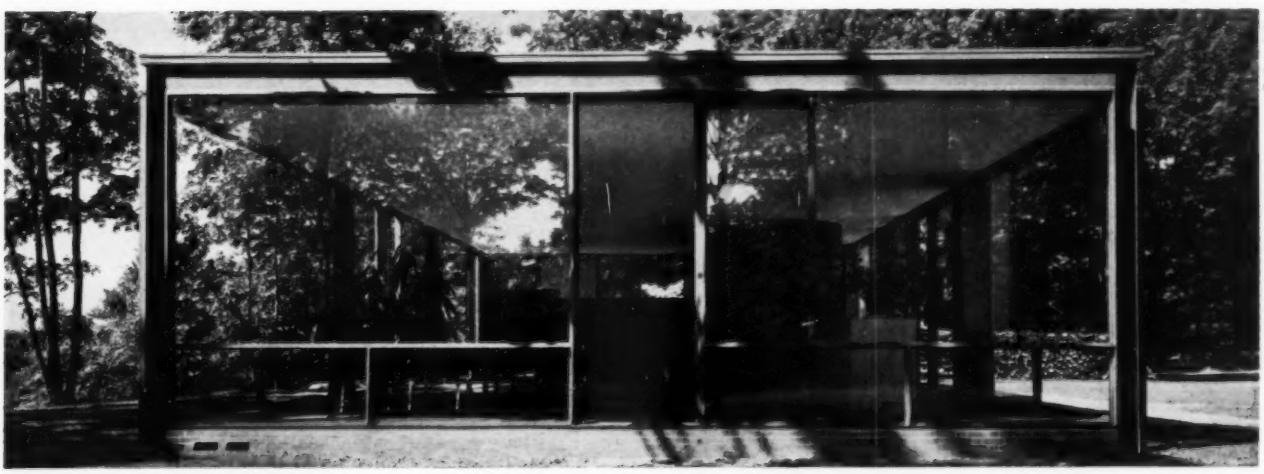


Julius Shulman

***D. R. Gamble House, Pasadena, 1908, Greene and Greene* (Sixth)**

"The Gamble house is the meeting ground of the eastern shingle style, the Orient, two extraordinary architects, and a sensitive industrialist. It shows a mastery of the structural and expressive potentialities of wood architecture seldom surpassed in our time. William Morris would have loved the house for its design and craftsmanship. Every chair, rug, fixture, and window was conceived by Charles Greene to fit the unique quality of the materials (lots of teak) and the architecture. Here survives the lofty spirit of that paragon of American architectural magazines, *The Craftsman*."

James S. Ackerman



© Ezra Stoller

***Philip Johnson House, New Canaan, 1950, Philip Johnson.* (Seventh)**

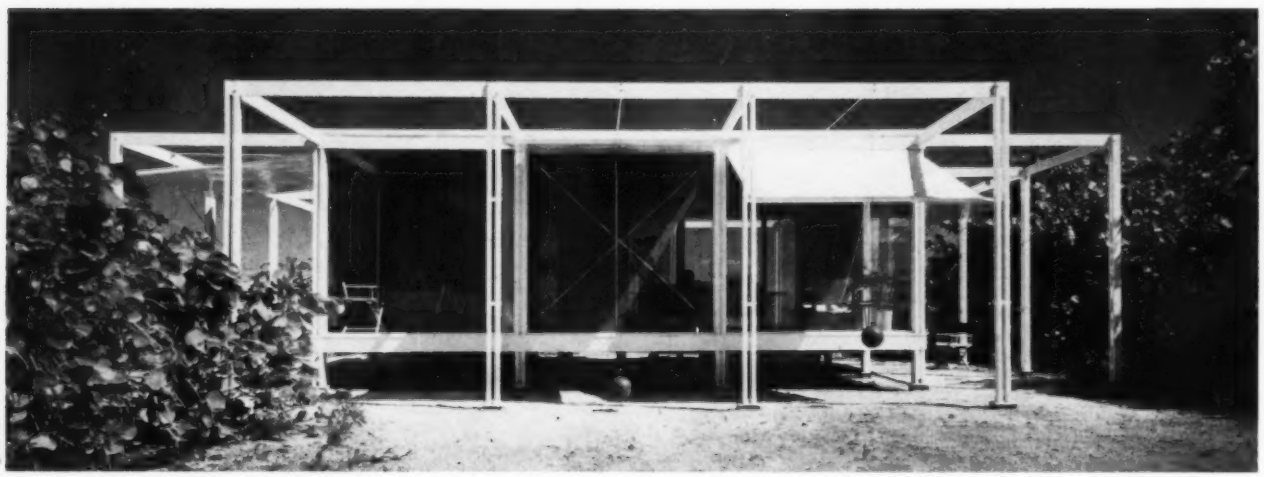
"In architectural history there has usually been a 'royal pavilion' in every age — a structure for living quite above and beyond the norm, yet of enormous influence. Philip Johnson's house is such a structure in our day.

For America's millions imprisoned by municipal walls, this pavilion enclosed by nature is a deeply appealing, if apparently impractical, dream. Amidst the inevitable clutter of daily living, the stark simplicities of this house and its furnishings spell serenity. Out of the ugliness of misused new techniques and materials, here is one example which is strangely beautiful. Surely no piece of domestic architecture of the current decade has had so wide an influence.

Philip Johnson, one of the first to write about the International Style, has here contributed to its actual development. To the basic concepts of Mies van der Rohe he has added elegance, at last removing the long taint of Bauhaus machine oil. Steel, glass, and masonry have been united with a new and classic severity, miraculously related both to the age of the jet and to the age of Pericles." ***Leslie Cheek, Jr.***

Walker Guest House, Sanibel Island, Florida, 1953, Paul Rudolph. (Eighth)

"This small structure may well stand as typical of the residential work which has captured the interest of architects everywhere. In a sense it almost sums up the principal characteristics of Paul Rudolph's contribution to date: its fine, spare frame is carefully scaled; the total structure — in plan or profile — presents a simple, retainable image; its voids and solids produce a rich play of light and shadow and a great sense of volume; all its parts are expressed with clarity and with great simplicity; it possesses the gift of near weightlessness so appropriate for a structure of small wooden members; its moving flaps permit a flexibility in use and in appearance; and withal one gets the sense that while it is manifestly a product of its place and time, it is nevertheless an architecture developed out of disciplines and concerns which transcend the local and the immediate." ***John Knox Shear***



© Ezra Stoller

Ellen Scripps House, La Jolla, 1917, Irving Gill. (Tied for ninth)

"Irving Gill is one of the unsung pioneers of modern architecture, and one of the most isolated. During the second decade of the century he produced in the San Diego region buildings of an amazing modernity. Smooth-skinned, geometric, with large sheets of plate glass and strip-windows, they are the antithesis of the baroque fantasies of Maybeck or the inspired carpentry of the Greene brothers, his leading California contemporaries. Indeed they seem entirely apart from the Richardson-Sullivan-Wright mainstream of American modernism. If his remote ancestor was Claude-Nicolas Ledoux in the 1790's, his most obvious descendant is the European 'International Style' of the twenties and thirties. With a style of ruthless elegance, Gill seems a sort of early Corbusier anchored to the ground."

Hugh Morrison

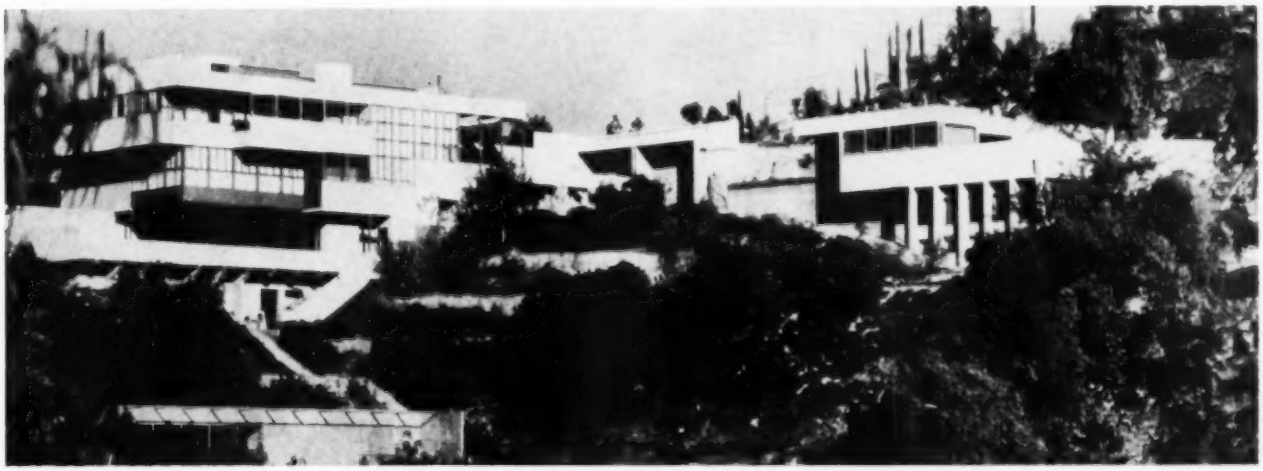
Julius Shulman

Roger Sturtevant

Weston Havens House, Berkeley, 1940, Harwell Hamilton Harris. (Tied for ninth)

"Like the Kaufmann house, the Weston Havens house is an outstanding example of a house designed for a special, unusual, and difficult site. Here the entire concept was based on the view over San Francisco Bay to the distant Marin County hills and the equal necessity of getting into a house on a steep western slope as much morning sunlight as possible. These requirements, interpreted poetically as well as practically, have resulted in a house full of unexpected beauties, flooded with light from unexpected sources, and yet always, as it were, calling to its inhabitants to come to the western windows to look out over the superb distances."

Talbot F. Hamlin



Julius Shulman

Lovell "Health House," Los Angeles, 1927, Richard Neutra. (Tied for ninth)

"Combining in an original way the rational clarity of form of the International Style with a Wrightian sensitivity for the natural site, Richard Neutra here produced a house that was much ahead of its time, not only in the United States but in the whole world."

Donald D. Egbert

"Sited on the hillside, this house demonstrated before any other the native 'open plan' successfully wedded to the modular steel skeleton. It is a brilliant and prophetic milestone showing both the practical and the esthetic advantage of the curtain-panel wall in residential design."

Buford L. Pickens

Edith Farnsworth House, Chicago, 1951, Mies van der Rohe. (Tenth)

"The house for Dr. Farnsworth is for America the house of the century. Its significance is at least two-fold: In defining for others, if not for Mies, the direction of his thinking, and in the influence that it has had on the work of others — an influence already apparent before its own construction was begun.

The house is austere and it is beautiful. If, as a house, it disdains the paraphernalia of comfort and convenience, it does this so compellingly that any house less disdainful is tawdry by comparison.

The structure is exact and finished rather than urbane. Its superiority is in the preciseness of detail and proportion. The polish of steel, stone, and plaster emphasizes the precision, not the surface. Similarly, the whiteness unifies and clarifies, transforming a rural house into a pavilion — into a temple."

Paul Schweikher

Hedrich-Blessing

INDUSTRIAL BUILDINGS

BUILDING TYPES STUDY NUMBER 243

INDUSTRIAL PRODUCTION ROARS ON at a pace that is forever astonishing. So also does the production of facilities for production. Industrial production is always breaking into new ground — new technological exploitation, new geographical areas, new sales markets, always with new impact on our lives and habits of thought.

In architectural areas, this industrial rat race produces some interesting reactions. Perhaps the most obvious one is that more and more architects are working, in one way or another, for industry. There are always new needs, in new places, for new purposes. More clients for more architects.

It seems more significant, however, that architectural thinking seems to be penetrating into new ground. A lumber yard (page 214), a steel yard (page 208), a truck terminal (page 224). Prosperity certainly is one reason. But one likes to think there is a deeper meaning here, an extension of appreciation for the architect's contribution to the job to be done, whether that is selling, manufacturing, shipping, or anything else. Whatever the reason, it is good to see an ever closer relationship between architects and the world of industry and commerce.

It is, of course, the basic reason-for-being of contemporary architecture that it seeks attunement with modern times, modern techniques and needs. If, as has frequently been remarked, modern architecture is most convincing in industrial buildings, small wonder, for technology was at least its uncle. Its crisp, clean character is expressive of industrial order and efficiency.

While noting this happy rapport, however, one sees complications. The well known confusion over just what is to be expressed is not to be avoided even here. In many instances the promotional demands on the building draw the client toward some pretty fancy notions; some small industrial buildings look like Alan Dunn's cartoon drawings of hot-dog stands (page 21). Sometimes the employees are given more consideration than the customers (page 228), and this is reflected in design.

All of the buildings in this study exhibit a great deal of thoughtful attention to space outside; there is some, in the first place, and it is carefully developed.

All by way of saying again that buildings are for people as well as for processes, and so is their architecture. This age old fact seems to be freshly discovered in manufacturing circles, or at least in ever widening circles.

It is more than ever true that every architectural office, large or small, can find opportunity in this field, to whatever extent it is prepared to serve.

Bill Hedrich, Hedrich-Blessing

NEW VALUES IN OFFICES

Three-Unit General Offices for Kimberly-Clark Corporation
Neenah-Menasha, Wisconsin
Skidmore, Owings and Merrill, Architects and Engineers

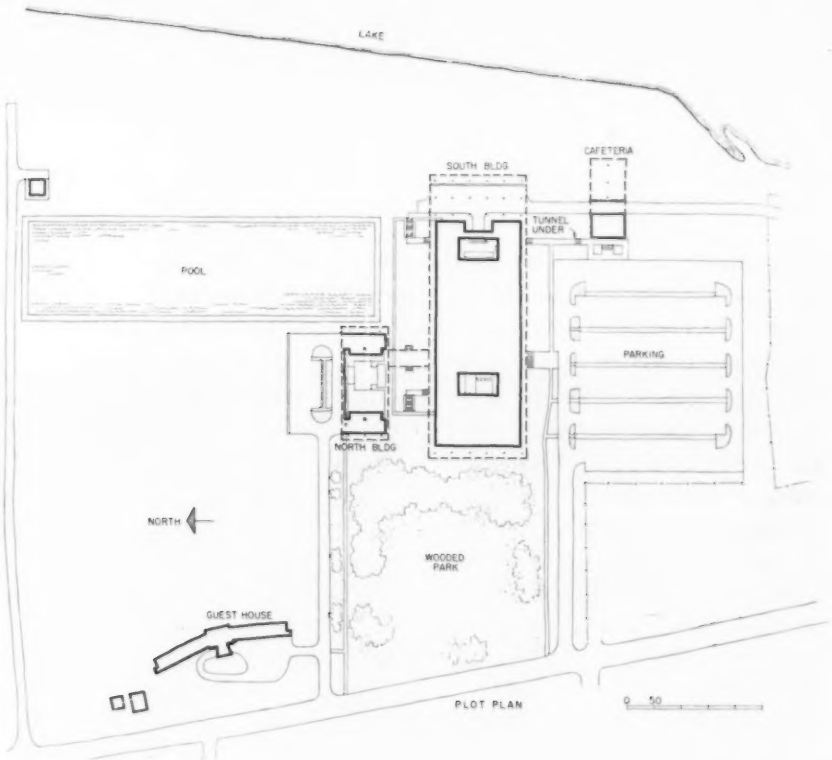
IF IT IS TRUE that industry generally has a new appreciation of the contributions of the architect, one reason might be the quality of executive office buildings that have appeared in recent years. Architects have made good use of the freedom from restrictions of downtown sites. They have done surprising things to older concepts of office buildings; have put new meaning in the phrase "amenity values."

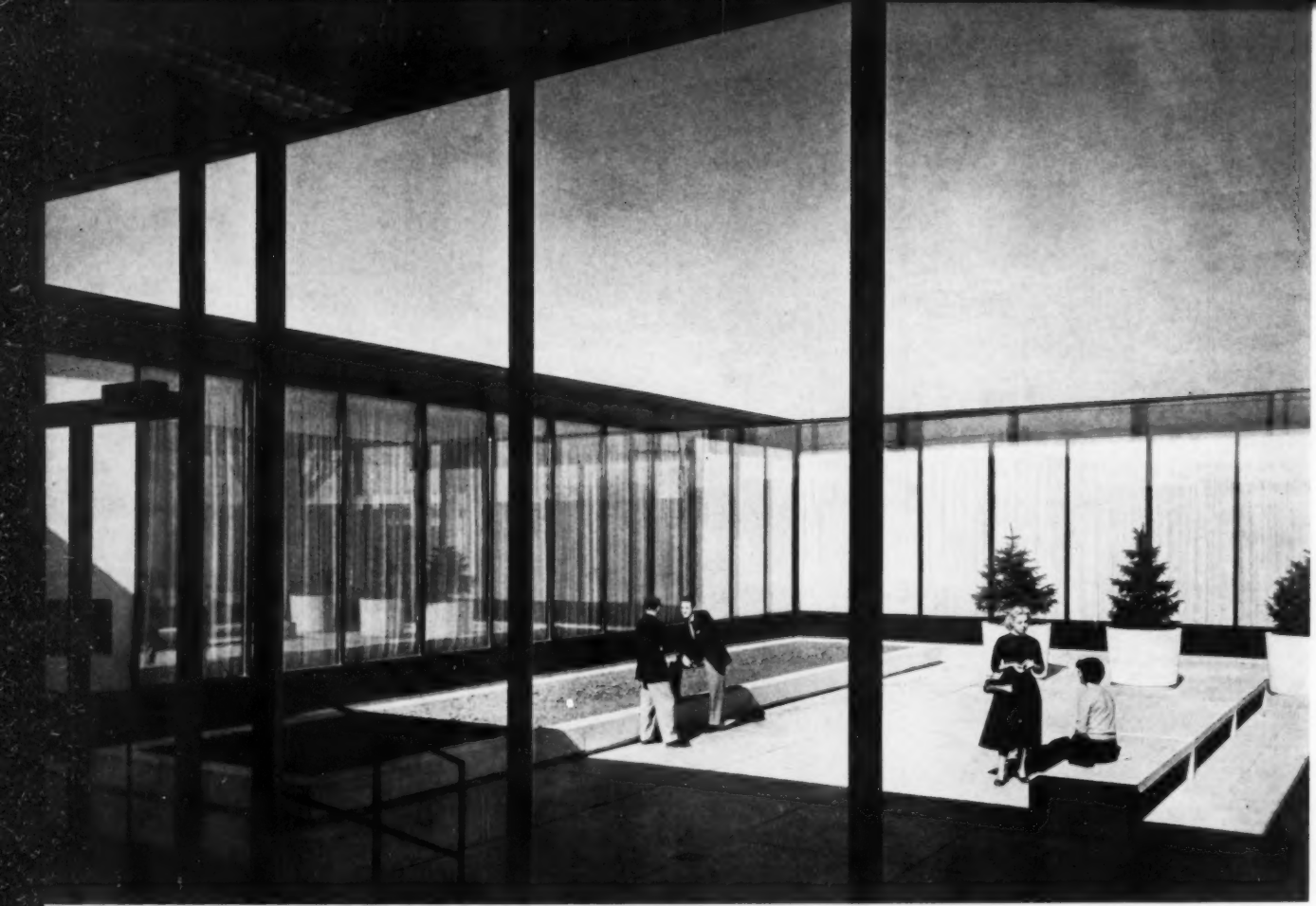
These new "general and executive offices" for a large paper manufacturing concern are a group of three buildings: one of two stories on stilts for the executive offices; a large unit of one story and basement for general offices, and a cafeteria building. They are located at the main plant in the Neenah-Menasha community of northern Wisconsin, at the edge of a small lake. They were designed for an ultimate population of 900.

The decision for three units came from the program: executive offices mean, of course, private offices for executives with the usual implications about isolation from noisier operations, entertainment of visitors, and so on, suggesting a building with mostly peripheral locations and shallow dimensions. General offices here suggested larger open spaces for pool operations and office machine work. The executive unit is the "North Building," the two-story one on stilts. At the lowest level the only enclosed space is the visitor lobby; the rest becomes covered parking for executives and visitors. The general offices have the South Building, which is 500 ft long and 150 wide, with two interior courts to give light and scale to the large office areas.

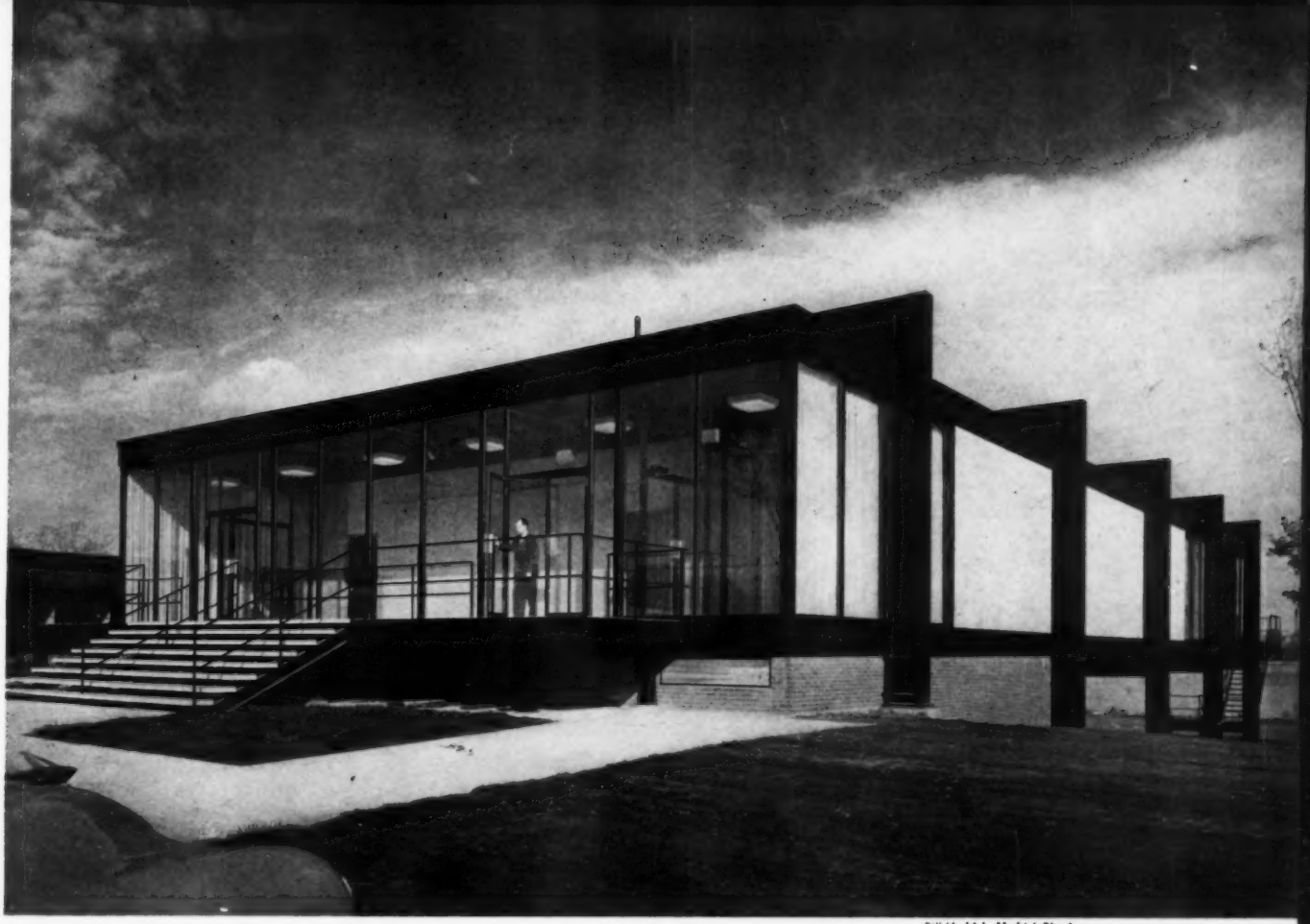
If the photographs seem to suggest that the architects were indulging in some whimsy in arranging levels of the three buildings, it would be more accurate to say that they turned to advantage the conditions of the site. The land sloped rather awkwardly in places, particularly where they wanted the office workers' parking lot. Some of the site had been filled with paper-making waste, which had to be scooped out before the land was suitable for building. Part of the low portion was made into a cooling pond-reflecting pool. Actually a great deal more earth moving proved necessary than was originally contemplated. But the result seems a happy one: the strictly visual dividends seem good and there were some on the functional side as well. There is a nice separation developing between cafeteria, parking lot, general office and executive and visitor parking. Buildings are, of course, connected for bad weather; the two office buildings by a covered passage above ground, the connection to the cafeteria being a tunnel.

Bill Hedrich, Hedrich-Blessing





Architecturally the three buildings maintain the same order of vertical panels of precast concrete or glass in 5-ft modules. The buildings are of exposed steel frame, which is painted black. The cafeteria was conceived as a clear space facing the lake, a space 60 by 10 ft; this is the building with the exterior steel bents. The two office buildings are steel grids consisting of 12-in.-wide flanges 10 ft on center in each direction in a 30 by 30 ft bay cantilevered 10 ft in all directions. The buildings keep to the 5-ft module, expressed in all the elements such as lights and air conditioning diffusers. Panels are of 3-in. precast concrete; these are interchangeable with glass in the wall system. Generally the module is expressed with black painted mullions; some cafeteria walls use the concrete panels merely buttered together. An important dividend of the framing system and the arrangement of levels is protection against snow, and against its blinding reflections.



Bill Hedrich, Hedrich-Blessing

Hugh Robertson A.R.P.S.—Panda

MODERN LUMBER YARD

Offices, Warehouse and Factory for
The R. Laidlaw Lumber Co., Ltd., Weston, Ontario
Pentland & Baker, Architects
The Rankin Company, Ltd., Industrial Engineers; Wallace Carruthers & Associates, Structural Engineers; Leah, Koyabashi & Associates, Mechanical and Electrical Engineers; Donington-Grubb & Stensson, Landscape Architects

IT IS NOT EXACTLY CUSTOMARY for a lumber yard to feel the need for the services of architects but it might be a good idea, as witness what happened in this instance. The power of the photograph herewith might suggest that the architects' efforts focused on designing a handsome office building, but that isn't true — the architects were just as heavily involved in functional aspects of the whole operation. They were responsible not only for arriving at the relationships between processes, but, together with the client's staff, for arriving at the individual process layouts of each department, and for preparing the process flow sheets in all manufacturing operations.

The new plant (it is a factory, not just a "yard") was a from-scratch assignment. The establishment began in 1871 and its buildings had just sort of accumulated ever since. Its problems had accumulated also, problems of loading, trucking, materials handling, processing, not forgetting disposing of the shavings. A new location was indicated, and a completely new plant. Hence the long and intensive study that ensued. Architects and clients visited some 50 of the most progressive manufacturing lumber yards.

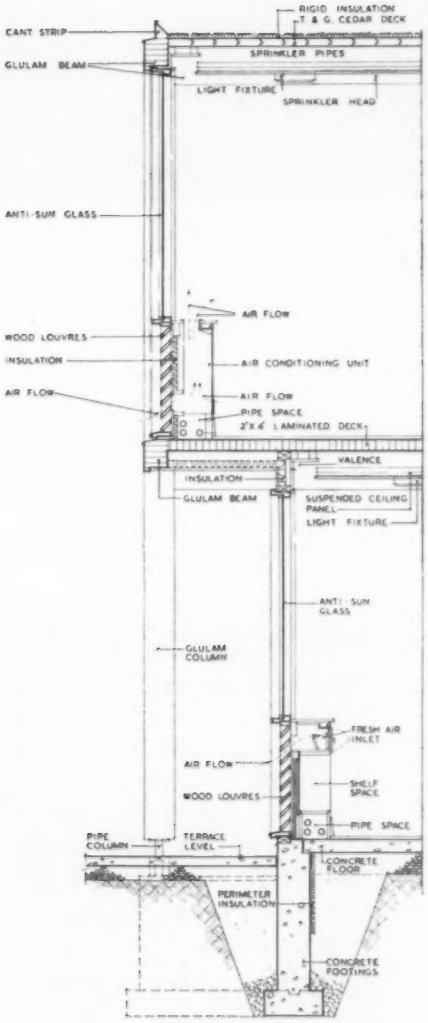
It is fitting to report that the architects evidently became intensely interested in the study, for their reports about the buildings deal almost exclusively with matters of materials handling, millwork and manufacturing process layouts, fire protection, costs, and so on. And, oh yes, the owners did want the buildings, especially the offices, to do credit to the products sold.

Panda

As for matters of appearance, "it was the owner's wish [to use the architects' words] that the plant be economical in cost and contemporary in design, emphasizing the potential uses of wood, both as a finish and as a structure. The entire plant was to be a showroom of those products sold and manufactured by the company, but at the same time no special matching or selection of materials other than those readily obtainable from stock was permitted."

The result is architecturally and philosophically interesting. The clean, disciplined rectangles and the stark exposed framing of this design are those that today one associates more naturally with metal construction. Here it is executed in wood and timber. Surely this is not a twist, for the wood looks perfectly natural in this use. Can it be that this is a full-circle story, returning wood to an earlier dignity?

Hugh Robertson—Panda



Exterior walls of all warehouses and storage building, planing mill and millwork factory, are 3-in. tongue and groove Western Canadian Cedar, as are some exterior walls of the office building. Structural framework throughout is glue-laminated beam and post, excepting for clerestory in the planing mill and millwork factory, which are wood trusses. Roof decking is the same 3-in. Cedar, with some insulation in office and manufacturing buildings, with bonded felt and gravel covering. Finished floors in office building are hardwood or wood block over mill sub-flooring. The office building is air conditioned, and all windows are fixed with opening louvers which have been built into the cabinets containing heating and air conditioning units under windows.

Eric Trussler, KenBell Photography Ltd.

Panda Photography

Hugh Robertson A.R.P.S.—Panda

Julius Shulman

STEEL EXHIBIT PROJECT

Office Building for Bethlehem Pacific Coast Steel Corp.
Torrance, California
Albert C. Martin & Associates, Architects and Engineers
Chancy M. Lott, Project Architect in Charge
Arnold Dutton, Landscape Architect

IF AN ARCHITECT can make a sizable contribution to a lumber yard (page 214), how about a steel fabricating yard? Here the story develops a bit differently, if it does arrive at roughly the same point. Here it was the architect who suggested that the building might serve to demonstrate new and untried uses for the product sold, in this case steel. The client quickly enthused, and pleasure was had by all in the ensuing collaboration.

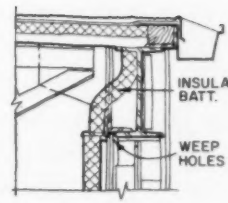
"This is the first building of its type," says the architect, "to have the structural steel supporting frames exposed. Weatherproofing and placement of the curtain wall played an important part in the design. Wherever there is angle bracing on the exterior, fluted paneling is carried immediately behind it for best effect. This fluted paneling continues inside; in fact, if the building were turned inside out the appearance of the walls would not differ radically (except that certain interior panels are special).

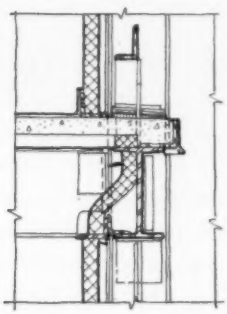
"The roof of the structure is built up over steel decking; the second floor slab is poured onto steel decking, and doors, partitions and paneling all are of steel. No wood is used.

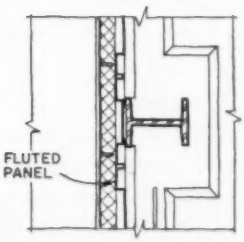
"With the completion of the building, an analysis of costs clearly indicated that steel can be as economical as it is structurally and esthetically effective. It was possible to keep within the $15.00 per square foot cost limitation, yet apply steel in many heretofore unthought of applications." Such was the architects' enthusiasm for an interesting assignment.

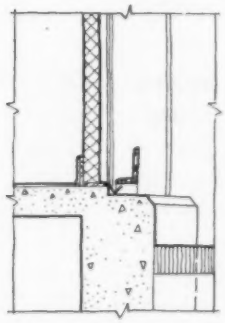
The architect comments also that the use of color is closely related to the steel industry. He began with the red lead effect of steel which he used for the X bracings. As background for the vivid red a variety of grays was used, with light gray behind the cross bracing, charcoal in columns and beams, pale gray on the porcelain enamel. The exterior grays are carried through to the interior, and new colors — yellows, greens, tans, corals — are added. The desire was to achieve a pleasant background that would best meet functional aspects of color use.

Julius Shulman

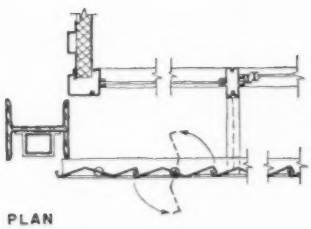




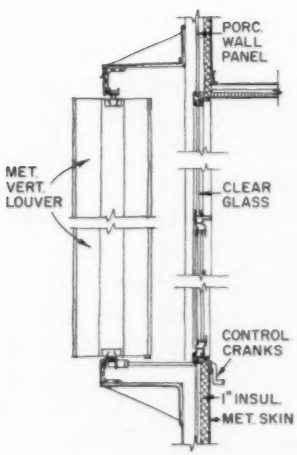




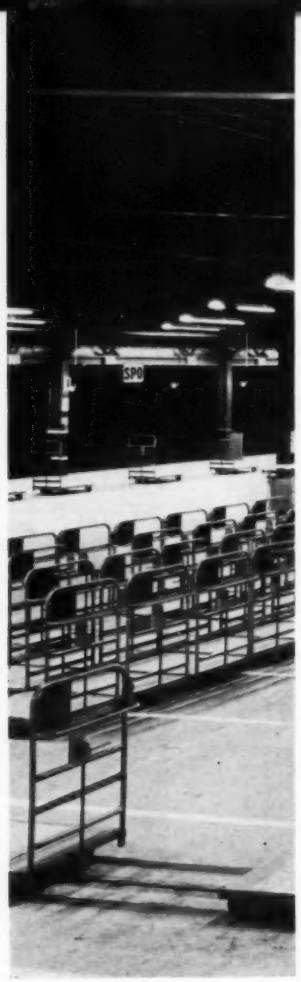
FLUTED WALL DETAILS



PLAN



SECTION



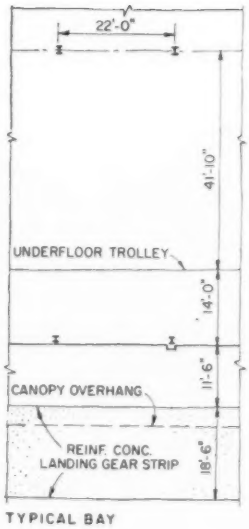
LARGEST TRUCK TERMINAL

Pacific Intermountain Express Company Terminal
Los Angeles, California
Albert C. Martin and Associates, Architects and Engineers
Chancy M. Lott, Project Architect in Charge

ONE OF THE NEWLY IMPORTANT TYPES of buildings in the industrial field is the truck terminal, which has changed from a Topsy-like shed to a huge and scientifically arranged docking facility. This new one handles 2,000,000 pounds of freight each day, has 700 employes. It represents the consolidation of activities of three older terminals in the Los Angeles area, and reaches a new height in size and comprehensiveness of facilities. So it becomes an interesting assignment for architects.

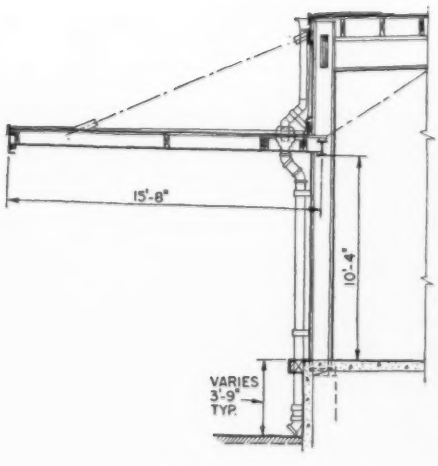
Facilities include a two-story, split-level office building, measuring 110 by 88 ft, completely air conditioned and landscaped; a 705-ft dock with 32 dock bays and 30 double truck bays on each side, capable of landing and unloading 144 trailers at a time; shop area 251 by 272 ft, to handle virtually all types of truck maintenance. The shop unit houses test facilities and engineering staff for study of new and better transportation facilities. The dock area and its handling equipment has been intently studied, for here, of course, the relative efficiency of freight handling is the determinant of profit or loss. A 1400-ft underfloor-cable conveyor system pulls hundreds of carts transferring freight; the operation is controlled by an intercom system and a system of pneumatic tubes.

Designwise, the architects have followed the idea of using materials and colors that identify the client and the business. The P I E trucks and trailers, moving throughout the western states, are recognized through aluminum panels and through a distinctive red color in signs and on equipment. So aluminum is used for panels of the main building and gate house; the red appears in porcelain enamel panels.



TYPICAL BAY

Cal—Pictures



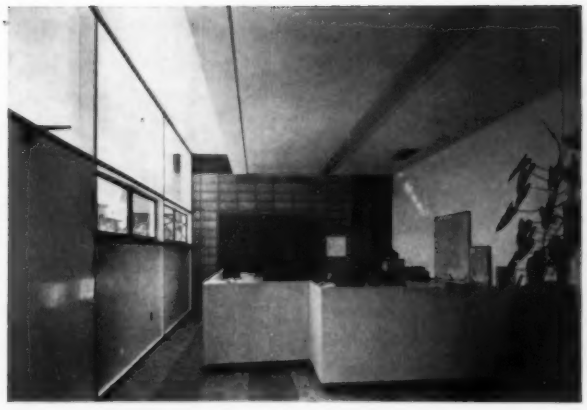
TYPICAL WALL SECTION

BABY FORMULA FACTORY

Baby Formula Company
San Francisco, California
Falk & Booth, Architects and Engineers

A DYNAMIC ECONOMY, they tell us, is always developing new products; then sooner or later new buildings are needed for their manufacture. It must be so; this little building is convincing testimony. Started ten years ago with two part-time workers, this baby formula business now has its own building, complete with battery of sterilizers, conveyor system, running full blast 24 hours a day. What it means in architectural requirements: walls that could be steam cleaned, sterilized; a plant that need never be closed down for "repainting"; attractive clean appearance. This building is of load-bearing concrete block exterior walls, spanned by steel beams, non-load-bearing partitions. Wood ceiling joists and hung ceilings. Front is of unglazed ceramic tile panels set in wood frame, glare-reducing glass.

Roger Sturtevant



EMPLOYES COME FIRST

Factory and Offices for Oregon Saw Chain Company
Portland, Oregon
Van Evera Bailey, Architect
Robert E. Kremers, Structural Engineer; J. Donald Kroeker & Associates, Mechanical Engineers; Fritz Klawa, Electrical Engineer; Chandler Fairbank, Landscape Architect

THIS FACTORY FOR SAW CHAINS follows progressive thought in many respects. Perhaps most notable is the evident consideration for workers. The two pictures above show the employes' entrance, not the visitors' entrance, and the employes' lobby, the stairs leading to the cafeteria. For another thing, it follows the idea of locating the plant out in generally residential surroundings, with pleasant outlook and freedom from traffic congestion. The architect comments that he worked especially to achieve the lowest insurance rate, and managed that not-easy feat. Lowest rate was important in a factory doing much heat treatment. Observers comment that this is one tilt-up wall job that looks like an architect designed it; both wall panels and columns are precast concrete, set in place with cranes. Otherwise the building is of mill construction, with Bailey's special laminated roof construction.

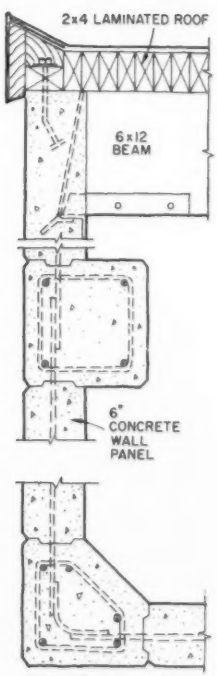
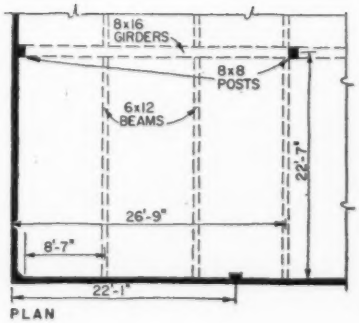


Photo-Art Commercial Studios



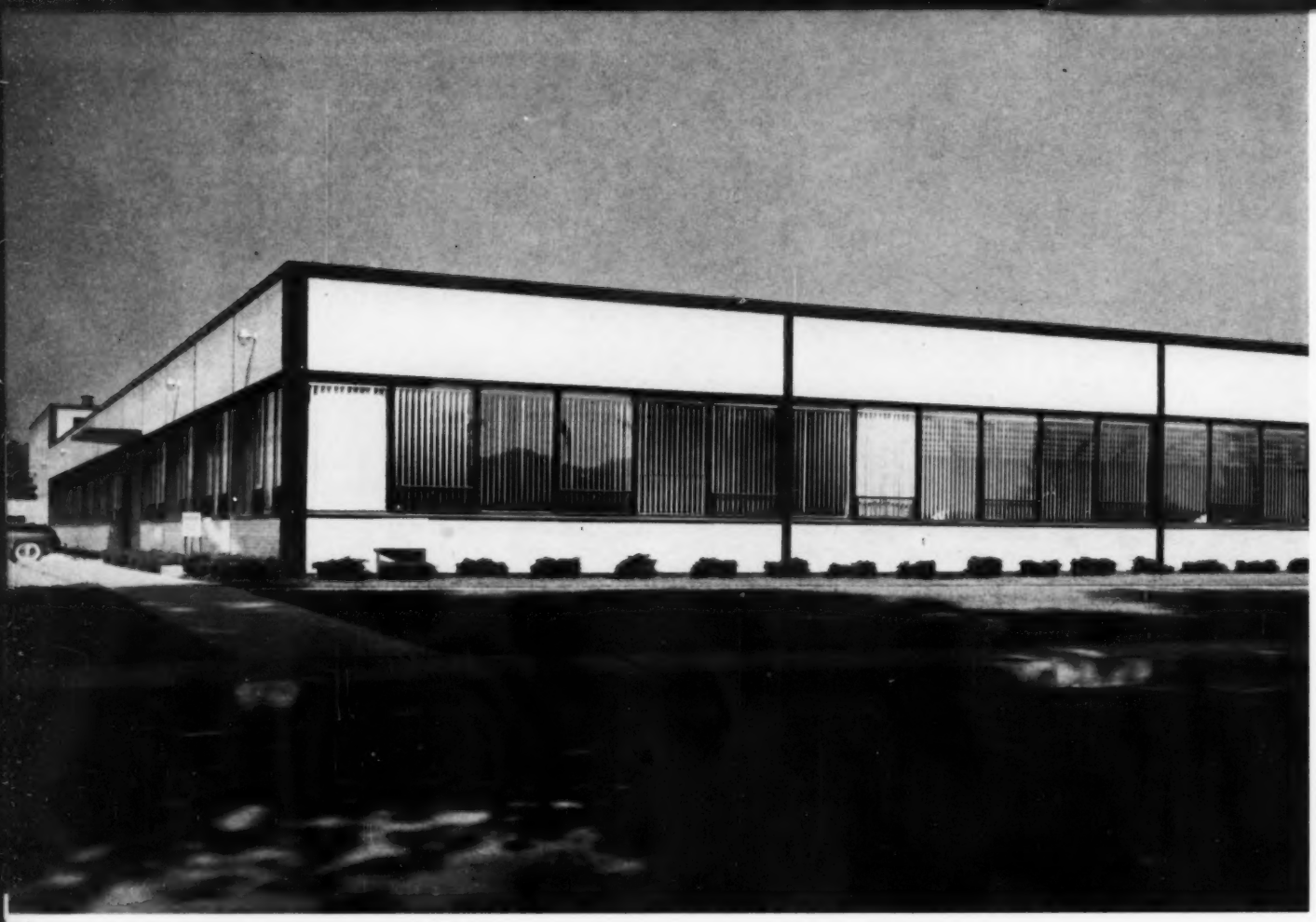
PLAN

CONVERTIBLE DESIGN

Research Laboratories for Ramo-Wooldridge Corporation
Los Angeles, California
Eugene Kinn Choy, Architect
Eugene D. Birnbaum, Structural Engineer; Frank Lehnnan Smith, Civil Engineer; Ernest R. Dexter, Mechanical Engineer; Parr and Jones, Electrical Engineers; A. J. F. Clement, Technical Adviser; Eckbo, Royston and Williams, Landscape Architects

A RESEARCH-ORIENTED ELECTRONICS development concern, this company has grown with phenomenal speed; in fact it has grown so fast it has scared itself. This record affected the planning of its laboratory complex. The project started at one end of what is now a row of four buildings, with the conversion of an existing warehouse for office and laboratory use. Soon the company acquired adjoining acreage and three new buildings were started. These were to follow generally warehouse construction, so that they might be sold for other purposes should the fears be justified. The buildings have the height (14 ft in the clear), the construction (concrete panel tilt-up), and the more elaborate fronts of small factory buildings, though they are used only for electrical design cubicles and shop work in connection with the research.

Julius Shulman

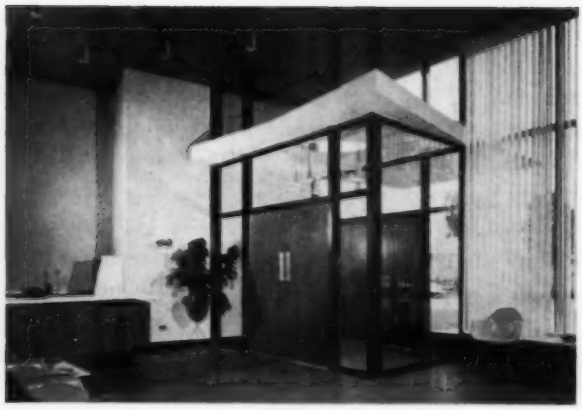


PLANT FOR ELECTRONICS

Shure Brothers, Inc.
Evanston, Illinois
A. Epstein and Sons, Architects and Engineers

PRESUMABLY THIS CLEAN little manufacturing and office building could have been built for any of the light industries, but it seems peculiarly fitting that it is actually for a manufacturer of electronic components. Elements of the building are small and their use is clear and precise. It seems a fitting expression for a precise and definitely modern industry. The building is enclosed with brick walls, using face brick on three sides. Clear height is approximately 12 ft to the under side of the steel framing. Column spacing is 25 by 40 ft. The floor is 6-in. reinforced concrete, with hard steel troweled surface treated with liquid hardener. Windows are of projected steel sash, glazed with clear and obscure glass. Interior partitions are of concrete block, painted in finished areas.

Hube Henry, Hedrich-Blessing

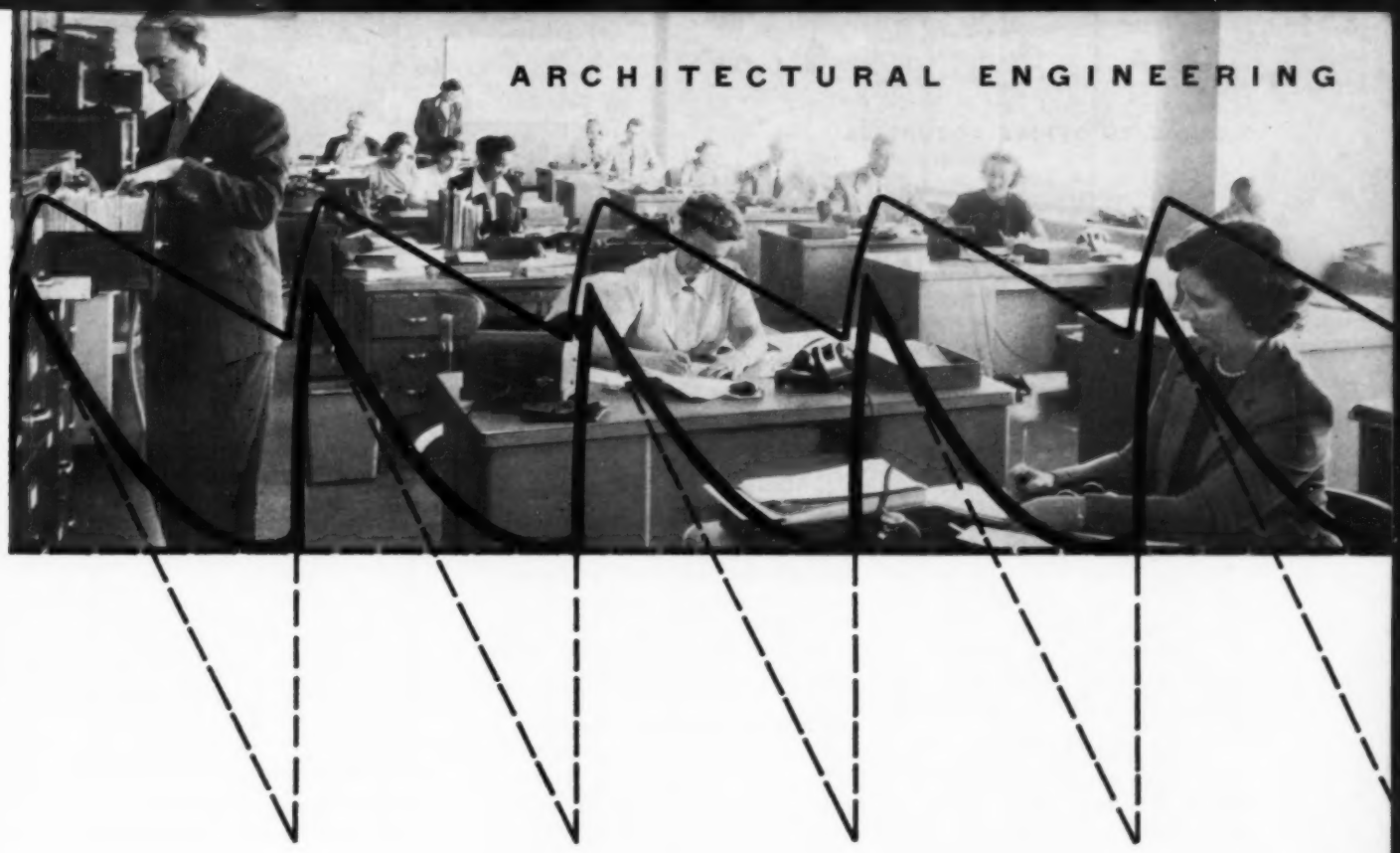


Julius Shulman

LOW COST WAREHOUSE

West Coast Headquarters Building, American Greetings Corporation
Los Angeles, California
Kenneth N. Lind, Architect

A FAIRLY TYPICAL NEED, especially on the West Coast, is buildings to warehouse products for area distribution. The warehouse portion must be built at absolutely minimal cost since handling costs are always under close scrutiny; especially for a low-unit-cost product like greeting cards; yet part of the building must have enough impressive quality to serve as area offices. Low cost was achieved here with concrete tilt-up construction. The interior of the building is exposed concrete; office areas are gray with oyster white, pale ice green and a darker gray green. The exterior is white and gray with accents of yellow at the facias of the office portion.



A GUIDE TO OFFICE ACOUSTICS

HOWARD C. HARDY

Consultant in Acoustics, Chicago, Illinois

WE ALREADY HAVE PASSED through two eras representing different approaches to the acoustic treatment of offices. Two generations ago, in the "Paleozoic" (very primitive) era, nothing at all was done about it. Of course, there were then probably fewer sources of noise, possibly less crowding, and perhaps more leisure in what was almost a completely masculine environment. In contrast to the ornate inner sancti of some of the banking and industrial tycoons, there was little comfort in the average worker's environment.

In the late twenties and early thirties ("Mesozoic" or let's-try-a-few-things era) the use of acoustical tile on the ceiling was found to give very beneficial results, and within a decade its use had become almost universal. The biggest impetus to the use of acoustical tile was the standardization of the square foot modular unit which was found to be the most convenient size that could be stuck up on an uneven plaster ceiling and present a satisfactorily level appearance.

The acoustic material industry has done a splendid job in engineering its products. Such developments as consistent absorptive properties, industry-wide consistency of measurements, fine workmanship in application, strong adherence, good light reflectance, low maintenance cost, and good flame resistance have been satisfactorily accomplished. Often the products have been considered a cure-all for *all* acoustic problems. Too often today we hear the complaint of the office manager, "I do not know why we should have a problem, we've got an acoustical ceiling."

We are now entering what might be called the modern era — a period of prodigious office construction and revamping of old offices. Drastic changes are being made in office architecture and the methods of office operation, for example:

a. A great increase in the spaces provided with air conditioning.
b. Use of more heavy office machines and computing equipment.
c. The elimination, to a great extent, of partition walls.
d. Choice of new decorative and lighting schemes.

In connection with these trends seldom has much thought been given to what the results *will sound like*, although everyone of the changes mentioned has serious acoustical ramifications. In fact, there have been quite a few mistakes or omissions in acoustical design.

Not all of the changes have been in the wrong direction. Use of air conditioning closes the windows to outside noise; drapes and horticulture may

make a more pleasant acoustical as well as visual environment. We are introducing so many new noise problems, however, that it behooves us to open our designers' ears to the new changes before they become too difficult to remedy. Another point, and a sore one among some of the new schools of architecture and design, has been the restriction on ceiling surfaces caused by the conventional square foot modular design of most acoustical treatments.

What Makes an Environment Sound Right?

The human ear will always be the court of last resort in judging the ultimate acoustical acceptance of a particular environment. The criterion of whether an office "sounds right" depends on many factors, but four are most important:

1. The sound should appear "natural." Man's ears were developed biologically to operate outdoors. Living indoors is a rather new thing in our evolutionary chain of development. The outdoor sounds usually are of low level and the direction from which they come is easily discerned. These characteristics are usually preserved in home and school, but the situation deteriorates as the individual is exposed to poor sound environment of offices and factories.

2. A person should be able to hear telephone conversations easily and to converse with persons in the immediate vicinity.

3. He should not be annoyed by conversation of others at a distance.

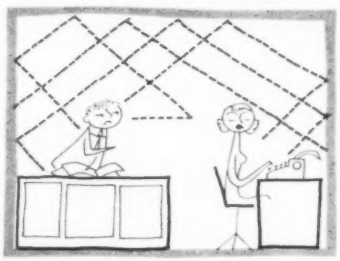
4. There should be no unusual or distracting sounds, especially if it appears they are unnecessary or controllable.

It should be obvious that acoustical design can never be reduced to single numbers any more than architectural design or personnel management can, but there are a few good rules in this branch of human engineering which have evolved from experience.

How Much Noise is Acceptable?

In order to draw a rating scheme for office noise, it is necessary to use a subjective scale rather than a physical one. For that reason, measurements of decibels on a sound level meter are of very little significance. Personnel will accept many more decibels at low frequencies (hums, thuds, etc.) than at high frequencies (hisses, screeches, etc.)

Telephone conversation should be easy



Sound should appear "natural"
(Too many reflections jumble sound)

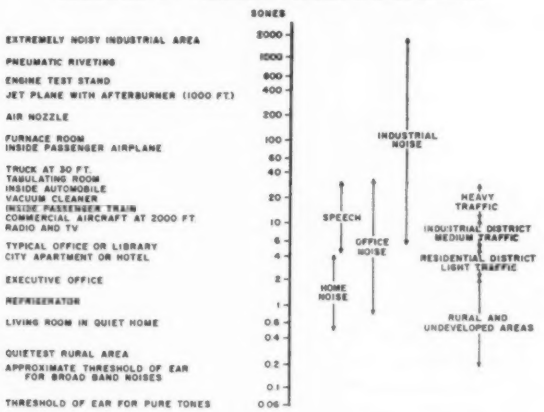
The acoustical engineer first measures the noise in frequency bands an octave wide (an octave is a frequency range of two to one) and then computes the loudness from these data. The unit of loudness is a sone, which is approximately the sound of an average refrigerator in a kitchen. The loudness of various human environments in sones is given in the chart opposite. Offices range between 0.5 and 40 sones.

In the chart the subjective rating of offices is correlated with the number of sones. Below one sone is very quiet. Around 10 sones would be considered rather noisy, and above 50 sones would probably be considered intolerable for an office. Some noisy office machines today give sounds as high as 40 sones.

When the level rises above 30 sones, it is practically impossible to carry on conversation except by shouting in the ear. Conversation over the phone or with a person nearby is difficult if the noise is above 10 sones. When the loudness is only two sones, conversation is very easy and relaxed.

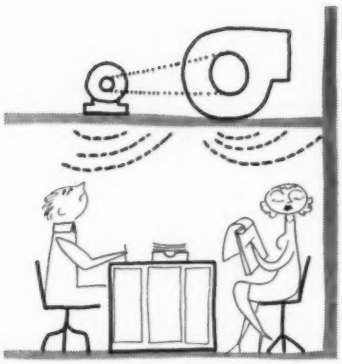
From practical experience and good office usage, it is recommended that executive offices not exceed two sones and general offices eight sones. A practical maximum for areas where there are heavy office machines — such as tabulators, card punches, and computing

LOUDNESS OF VARIOUS HUMAN ENVIRONMENTS



LOUDNESS RATINGS FOR OFFICE SPACE

	TOTAL LOUDNESS (SONES)	CONDITIONS FOR CONVERSATION	RECOMMENDED USE
EXTREMELY NOISY	50		
VERY NOISY	25	PRACTICALLY IMPOSSIBLE	NOISY OFFICE MACHINES
NOISY	10	DIFFICULT	
SLIGHTLY NOISY	5		GENERAL OFFICE
QUIET	2	EASY	EXECUTIVE OFFICE
VERY QUIET	1		



There should be no unusual or distracting sounds

Distant conversation should not be disturbing

equipment — would be about 20 sones.

It should be remarked that noise, when it is *steady* and not too high in level can be beneficial rather than harmful. A person will become so used to a steady low frequency background noise, such as outside traffic, an office fan, or ventilation noise, that he will no longer be conscious of it. This noise will tend to mask out the transient sounds such as typewriters and telephone conversations and conferences being held some distance away. For this reason, people will often complain more about the office noise when the fans are off than when they are on. If, however, the background noise becomes so high that telephone conversation and small conferences are difficult to conduct, then noise complaints will be registered again.

This narrow margin between the beneficial and nuisance levels of background noise, especially in the large open offices, is the reason why there is such a wide range of human reaction to spaces which at first observation appear to be very much the same. Efficiency of acoustical material can make a real difference which will be discussed below.

The architect should beware of the "too quiet" executive office if he wants to avoid trouble. A typical example is that of an executive who announced he wanted extreme quiet in his new office suite. As a result, the contractor spared no expense — put in rugs, drapes, fine acoustical ceiling, thirty feet of acoustical lining on all branches of the air conditioning ducts, and double windows to remove traffic noise. He finally obtained an extremely low background with a loudness of 0.2 sone, which was even quieter than remote rural areas.

Unfortunately, with this low background, conversation at a very low, but clearly understandable level could be heard through the office doors, and the privacy of the inner sanctum was not secured. Minute rumbles from walking and other activity overhead could be heard.

The cure in this case was to use a slightly heavier door, and, without letting the executive be aware of it, to remove the acoustical duct lining so that a small amount of noise was brought into the room.

Things to Look Out For

Below is a check list for the architect which, if not exhaustive, still should be helpful as a reminder. Nearly everyone can add other items from his own experience. Remember, however, that the importance of the items will depend on the circumstances:

a. Noise from mechanical equipment:
   1. Heating and air conditioning
   2. Plumbing
   3. Floor excitation from above
   4. Elevators and escalators
   5. Pneumatic tubes

b. Outdoor noise and vibration
c. Improper architectural arrangements
d. Unusual focusing of sound
e. Sound transmission through doors.

Air conditioning noise makes up a good share of the complaints in office buildings recently completed. Cooling towers are often placed directly over the top executive's office. The mechanical equipment is often located too close to other areas in which quiet is desired. Noise is transmitted down the ducts. The good acoustic design of such a system has a negative parallel to the design of the air distribution. With a certain amount of noise power available from the system, the amount distributed to each branch point should be computed and abatement measures taken, if necessary. In addition, regeneration of noise may occur at the regulators, grilles, and air diffusers.

Plumbing and heating noise control consists principally of proper isolation

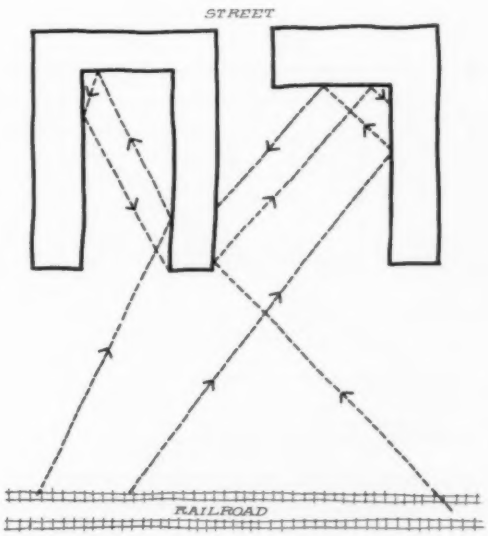


Fig. 1. An L- or U-shaped building may cause unforeseen focusing of sound around parts of the building

of the pipe-conducted vibration from the building structure itself. In a few cases, proper attention must be given to isolating the furnace from surrounding areas.

Floor and wall excitation from elevators, escalators, pneumatic tubes, etc. can be often avoided by having a structure sufficiently stiff and free of large spans. The structure carrying an excitation type of loading should be as near as possible to supporting columns.

This is somewhat true of overhead noises. Where heavy mechanical equipment is anticipated, sufficient stiffness and mass should be provided in the supporting structure. Avoid application of forces to the center of large spans. Also vibration isolating material will be ineffective if the floor is easily put into vibration.

A few of the improper architectural arrangements are the following:

1. Open windows near large outside sources such as trains or truck routes.
2. U- or L-section plans which may focus outside noises towards particular parts of the building. See Fig. 1.
3. Thin roofs where there is intense air traffic noise.
4. Internal arrangement of office doors so that there is ready transmission of noise from one office to another either directly or by easy reflection. See Figs. 2 and 3.
5. Arrangement of corridors so that heavy personnel traffic exists at undesired places.
6. Putting a multiple switchboard in an open area causing disturbance both for the operator and the poor harassed office neighbor.

The designer also should be aware that there can be trouble due to unusual focusing problems. One such case occurred in a brand new office: the personnel manager had a northeast corner office, the receptionist the southwest corner. The personnel manager maintained an open door policy and did not like to shut the door during conferences. Conversation in his office could not be heard outside, but unfortunately it was directed into the opposite corner which acted like a parabolic reflector focusing the information to the receptionist who happened to have her ears at the right spot. Naturally, there was quite a leak of information of personal importance. The solution: put a heavy drape on the wall behind the personnel manager's chair.

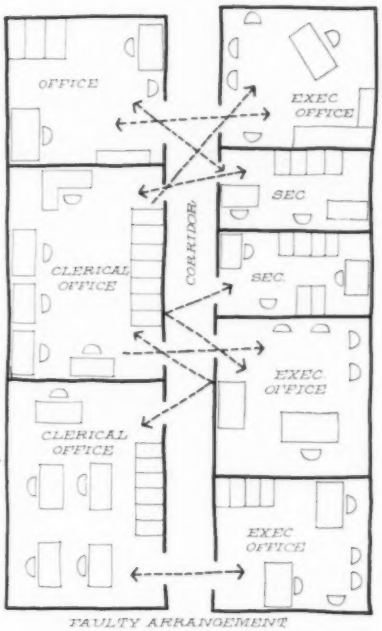


Fig. 2. A faulty arrangement of offices along a corridor. The presence of many doors at one point makes noise transmission likely, and it also causes traffic concentration in these areas

To be avoided are cylindrically concave walls which, unless precautions are taken, cause even more focusing than corners, resulting sometimes in very peculiar acoustic effects.

One of the largest sources of complaints is the sound transmission through doors. The architect should ask himself whether the door is to be an *acoustical* as well as a visual barrier. If so, lightweight wood doors, accordion doors and air circulation vents in the door should not be avoided. There are ways of obtaining acoustical privacy without doors — using short corridors for isolation — but these must be designed with complete knowledge of the outside environment and the intended use.

What an Acoustical Ceiling Does

It might be a good idea at this point to recognize what an acoustical treatment on the ceiling accomplishes. In most cases it is the chief absorber of sound in the room, other absorption being contributed to a minor extent by the walls and furniture, and to a greater extent by rugs and drapes, if they are present.

Take the example of a 12- by 20-ft office in which there are on the average two or three persons. Without an acoustic ceiling, the absorption would be of the order of 100 sabins (one square foot

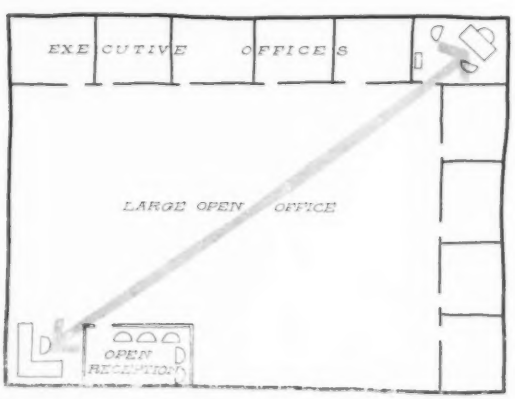


Fig. 4. Example of focusing of conversational sound from an office across an open space to a reception area

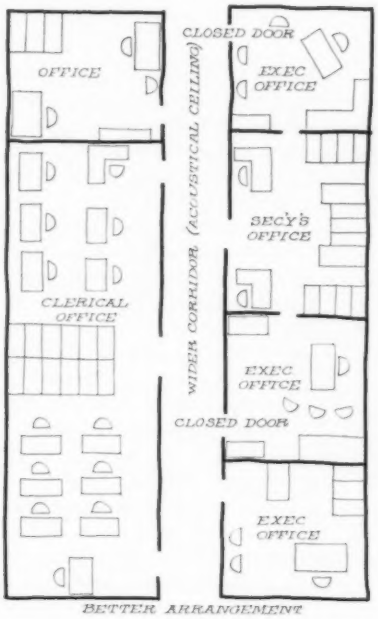


Fig. 3. The wider corridor covered with an acoustical ceiling isolates the office entrances. Two partitions have been eliminated. Executive offices are better isolated from the outside

of 100 per cent absorption equals one sabin.) With an acoustical ceiling, the absorption might be increased to 270 sabins. This would reduce a steady noise by 4.3 db. If rugs and drapes were used in addition, the total absorption might be 400 sabins, and the total steady noise reduction would be 6.0 db.

However, this does not adequately describe the effect because most acoustic disturbances in offices — telephone conversations, typewriters, etc. — are not steady sounds. Both speech and typewriter sounds consist of impulses with a rate of repetition of about 5 pulses per second. These impulses are bouncing around the room striking about 50 room surfaces per second; that is, in the order of ten reflections between impulses exist in the size of room given above. The absorbing material has therefore a good chance to reduce the sound between impacts. See Fig. 5.

For the example given, the sound would decay about 10 db between impacts without an acoustic lining; about 27 db with acoustic lining and about 40 db with the addition of rugs and drapes. Of course, the steady state noise might be only 15–20 lb below the noise of the typewriter and the chief advantage of the material is that it causes the sound to decay more rapidly with fewer reflections.

From a subjective point of view, because of the gaps between the noise impulses, the acoustical material may have a subjective effect of 10–15 db, instead of the 4 to 6 db it has for steady noises. The lesson to be learned here is that acoustical materials are more effective on impulse sounds than on steady noises.

The discussion given above applies also generally to large open offices except that in addition there is an attenuation of the sound as it propagates through the office. This attenuation is not as great as would occur if there were full partitions, but it can be adequate in a large number of cases, if well designed. The two most important parameters are height of ceiling and the acoustical absorption coefficient. The higher the ceiling and the higher the percentage of absorption, the greater the drop with distance. Fig. 6 illustrates the drop with distance in a large office room of the sound from a single steady noise source.

The drop off with distance can be increased considerably for the higher frequency sounds, such as speech and typewriters, if partial partitions are used. The reason is that the sound normally reflected from the floor and from the desk and other office equipment and spread through the room is now ultimately reflected upward and has more chance of being absorbed in the ceiling treatment. The effectiveness of the treatment will depend on the partition height and approaches the effect of a full partition at about 0.8 the ceiling height.

Even a 5-ft partition has an advantage over no partition, if the noise sources are from conversation of seated persons and other sources at table height, such as typewriters. The drop off with distance of the sound in offices with 5-ft partitions is given in Fig. 6. In some cases it can exceed the drop with distance measured outdoors. Again the upper boundary is for low ceiling and low absorption. The lower boundary is for high ceilings and high absorption.

Sometimes the partial enclosure can be placed around the noisy machine rather than around the listener. In the worst cases complete enclosure is the only remedy. The advice of the machine manufacturer or an acoustic consultant should be sought in these cases.

The most important frequencies for absorption in offices are those concerned with speech and those which are chiefly radiated by office machines. These are the frequencies above 250 cps. Most commercial acoustical materials are designed to cover this. However, if acoustical absorption is also provided at low frequencies, the room will sound less

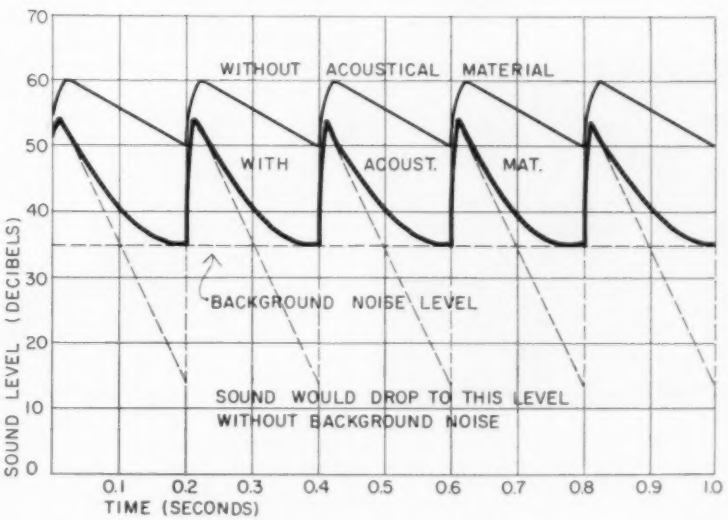


Fig. 5. A good acoustical ceiling reduces noise by causing sound to decay between impacts. Through the "picket fence" sounds can be heard more easily

boomy and a little more comfortable. Generally, suspended treatments have much higher low frequency absorption than those treatments which are adhesively bonded. This is because the air space behind the facing allows the long wave length sound (250 cps has a 4.6 ft wave length) to penetrate into the material.

Future Trends

An attempt to get away from the appearance of the conventional acoustical ceiling has been to use plastic translucent surfaces. Although these allow the low frequencies to pass through and be absorbed, they are good reflectors to high frequencies, which is the wrong direction for good acoustic performance. One way of providing sound absorption is through the use of acoustical baffles.

In an office the ceiling is the largest single surface the designer has to work with. Observation of men and women at work indicates that few of them ever look at the ceiling. However, its appearance cannot clash with the other elements of the design and it must supply other functions, one of the most important of which is lighting.

One of the trends in ceiling acoustics which can be predicted, therefore, is toward more choices of treatment. Undoubtedly, many designers will make more use of suspended treatments since they provide means of hiding plumbing and air conditioning. The white monolithic appearance of certain treatments such as acoustical plaster and some of the newer mineral tiles appeals to some designers. Combination of function of lighting, heating, and ventilation with acoustic absorption has been done and very probably more new ideas will arise.

One of the most important trends is in the field of air conditioning systems using high velocity air. The saving in space makes these systems very attractive, but they are a potential source of noise. Not only is there high noise at the source, but it is generated down the line due to the turbulence in the ducts, in the turns, or near the outlets. Not only will these problems have to be solved by the air conditioning manufacturer, but they will require more diligence by the architect in planning for them in future building construction.

The advent of the computing machine in accounting, data processing, and customer contacts (subscription service, billing, mail order), may change our office layouts drastically. So far it is doubtful if the architect has met the challenge of designing a building which will best fit the new office technology. When this happens, an important part of the design should be how such a place will sound.

Finally, there is one other trend which it appears will change our approach to office design. This involves fitting the office to the operation and not the operation to the shape of the building. In a few office designs, this has been done and has been very helpful in improving office traffic. Efficiency in office traffic may improve or increase noise depending on the location of the noise sources. It is, therefore, important not to lose in office efficiency by an improper noise environment what is gained by more convenient layout.

The chief problem in the future, however, will be to take all those desired environmental properties of sound, lighting, air conditioning, fire control, office traffic, and make them consistent with good performance and good appearance. We all will be busy.

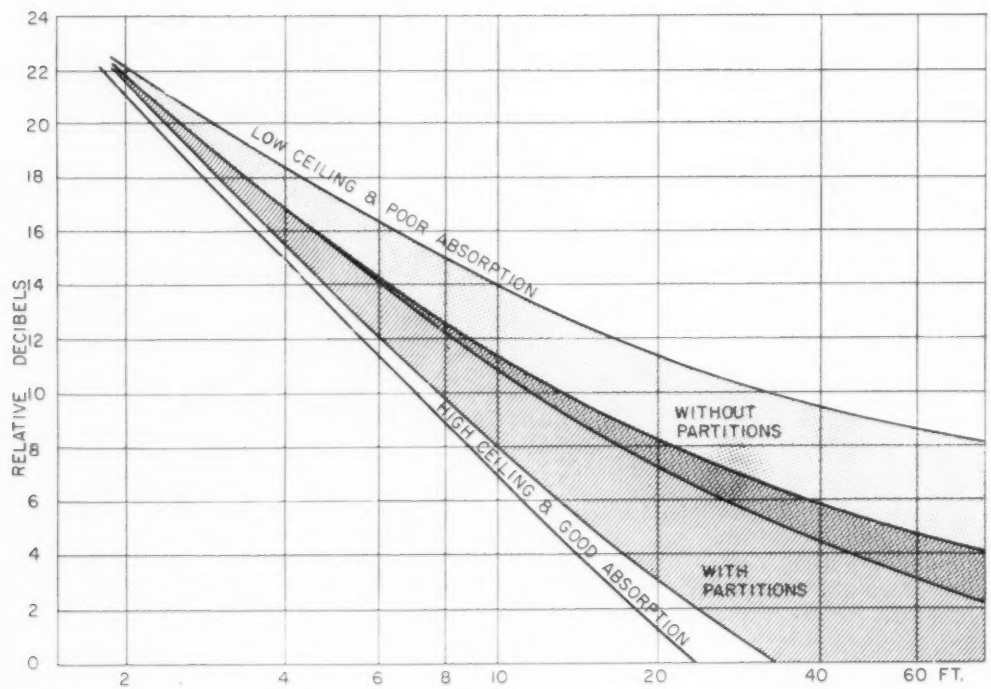
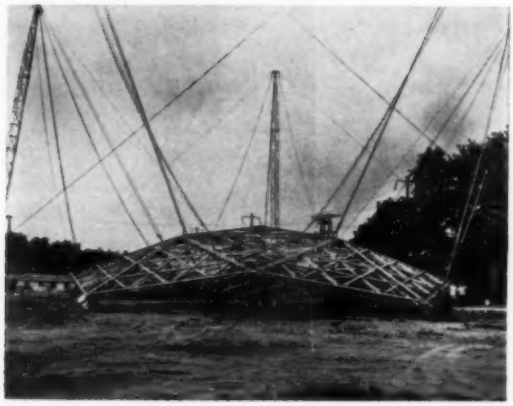
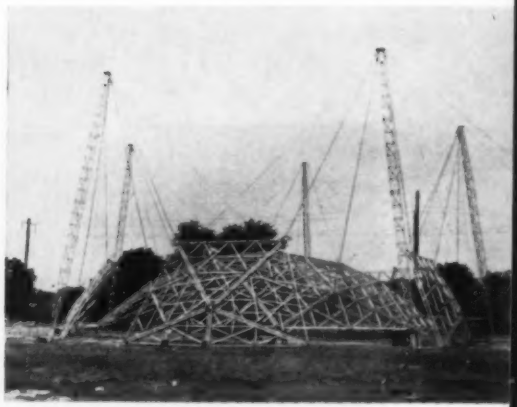


Fig. 6. How sound drops with distance in a large open office with different acoustical treatments. The upper shaded area is without office partitions; the lower shaded area is with 5-ft partitions

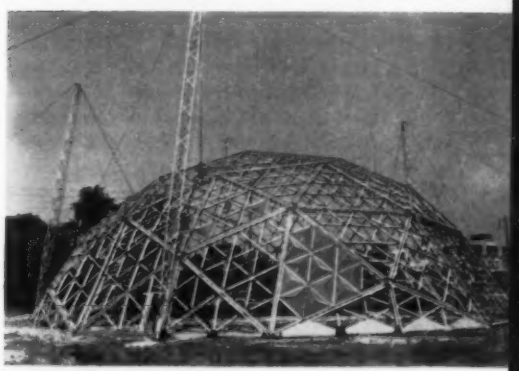


The top ring of five triangles and the second ring are lifted 3 ft off the ground with ginpoles to permit addition of next ring



Final lift will sit the top assemblies on the ground assemblies, shown ready for moving under the sections when they are lifted

LARGEST BUCKY FULLER DOME PERMITS SPEEDY ERECTION OF PORTABLE AIRCRAFT HANGAR



Some of the pyramid-shaped plastic panels are shown in place

ANOTHER BUCKY FULLER DOME has been created — this one the largest ever, 117 ft wide at the base. With a basic structure of non-corrosive aluminum alloy and a skin of fiberglass-reinforced plastic, the huge clear-span dome was erected by the Washington Aluminum Company in Baltimore for the U. S. Marine Corps as a portable aircraft hangar and/or repair shop.

The major advantages claimed for the dome are its portability, short erection time, strength and minimum maintenance. The completed dome weighs less than 52,000 lb and can be broken down into packages of no more than 100 lb each for shipping. Erection time is two and a half days with thirty men working.

The dome is designed to withstand winds of 150 mph and a 20 psf overload plus the weight of a jet fighter suspended from the dome shell itself at a number of points.

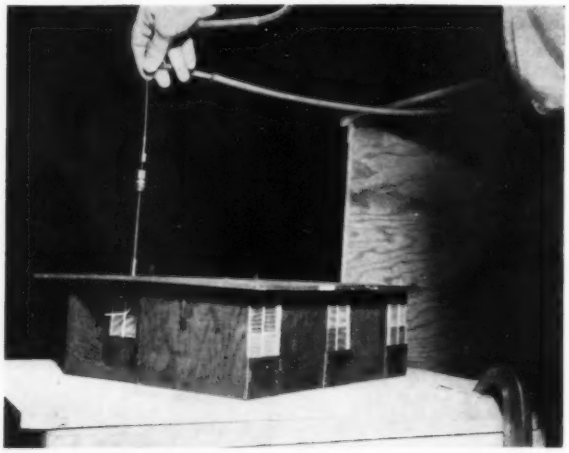
Key to the speedy erection of the dome is a system of color and number codes which serve to identify the elements of the nine basic triangle types which make up the dome. Struts and clips are keyed by numbers to trusses; and trusses, struts and clips are keyed by color to the triangle to which they belong. The hubplates which join the major triangles are colored in segments to indicate the sequence of assembly of the triangles. With this key the dome can be erected without reference to a blueprint of any sort.

The dome is actually raised by means of five aluminum ginpoles in three separate lifts. The first five "black" triangles are assembled on the ground and lifted first. The next two rings of triangles are attached to the hubplates as specified and lifted second. The third lift raises three rings of triangles high enough off the ground to sit on top of the ground ring assemblies, including the aircraft doors. The complete dome of 80 triangles is never lifted at one time, although the load is within the safety limits of the ginpoles.

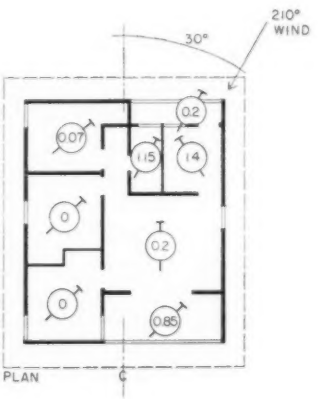
The plastic pans, which are attached to the struts with anchor nuts, are formed like shallow pyramids, weigh about 13 lb each and measure 4 ft per leg. The number used to cover the entire 46-ft-high dome is 1112.

Plastic pans are attached to struts with anchor nuts. Connections between struts are by means of nuts and bolts

MODEL TESTS PREDICT NATURAL VENTILATION



Pressure gauges inserted in a model during wind tunnel tests as above yield measurements which can be used to predetermine actual air velocities in the completed structure. Comparative air pressures as measured at various points on a typical floor plan are shown below.



RECENT EXPERIMENTS in natural ventilation at the Columbia University School of Architecture have produced a method which gives a fairly close approximation to the wind velocities in and around a structure. Although previous investigations have shown that smoke passing over a model in an air chamber will give a valid approximation of the air flow pattern to be expected in a structure, there has been no reliable means of determining wind velocities about the building to supplement this visual representation. By making some modifications in the conventional procedure, graduate student Dan Branch was able to gather quantitative data on air pressures within a test model which permit accurate correlation with the average velocity of prevailing breezes at a proposed site. The tests were run in a wind tunnel at slightly higher air speeds than are usual for the air flow chamber tests, and gauges were used to measure air pressures in inches of water. It was found that measurements of the wind pressure at various points of a model and the free stream velocity pressure in the wind tunnel could be used to predict the actual velocity at corresponding points on a proposed structure by applying the general relationship:

$$V_i = V_p \sqrt{\Delta p_n / \Delta p_w}$$

where V_i is the velocity at any point on the actual structure, Δp_n is the pressure at the same point on the model, Δp_w is the free wind velocity pressure in the tunnel, and V_p is the prevailing wind velocity at the site. A curve plotted for the appropriate value of V_p will yield the corresponding values of V_i for any combination of measured test pressures, enabling the designer to quickly determine the quantitative effects of variations in design and orientation on wind behavior, and to use this information in conjunction with a visual study of the air flow patterns for a reliable forecast of the efficiency of a proposed building in utilizing available breezes.

Forecast *designer Ilonka Karasz envisions aluminum foil as an entirely new decorative material. Best-known for her* New Yorker *covers, she is also a leader in the field of wallpaper and fabric design.*

RESEARCH PROGRAM "FORECASTS" FUTURE

In a unique research program aptly dubbed "*Forecast*," the Aluminum Company of America has commissioned well-known designers to create their impressions of tomorrow's home under the directive, "Think in Aluminum." The program, which was centered in the home and family to avoid the limitations of a strict industrial approach, includes projects designed to uncover new uses of aluminum in home planning and building, household furnishings, textiles and even children's toys.

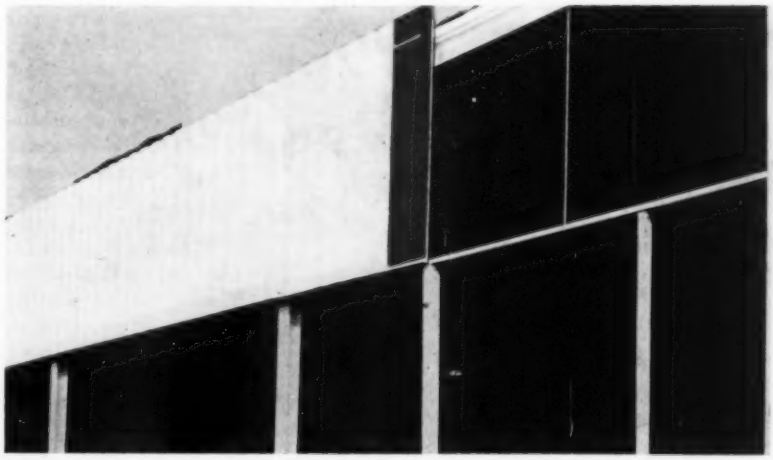
Although the participating artists have not been limited to problems of immediate production, it is hoped that their work will lend impetus to original design in aluminum, thus helping to pave the way for future product development.

In one of the earliest *Forecast* projects Ilonka Karasz, commissioned to explore the possibilities of aluminum wall coverings, conceived of the heat-radiating aluminum foil wall as a decorative feature in tomorrow's home. The result, shown here, is a mosaic of foil-covered plywood shapes in a variety of colors and textures assembled against a radiant-heating panel of heavy gage gunmetal aluminum foil.

(More Roundup on page 254)

ACOUSTICAL SIDE WALL PANELS FOR INDUSTRIAL SOUND CONTROL

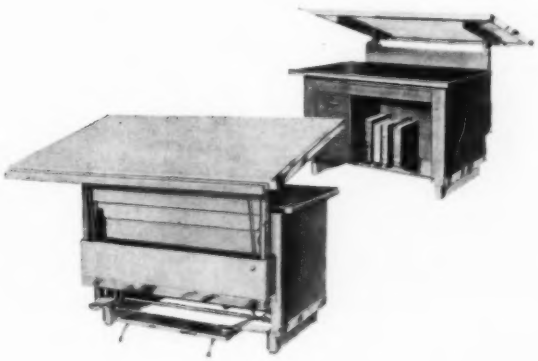
A new adaptation for wood-fiber insulating board is said to provide a single-material answer to many industrial sound control problems. *Tectum* acoustical sidewall panels effectively minimize sound transmission, and when used in conjunction with a roof of the same material make sound absorbing elements of two of the three surfaces that normally reflect shop noise and confusion. The panels, which are made of long-strand wood fibers impregnated with an inorganic hydraulic binder and compressed to 2- to 3-inch thicknesses, have a textured wood surface. They are available in 30 in. widths in lengths ranging from 4 ft. to 10 ft., and may be mounted by a variety of methods, either inside or outside the framing girts. Tongue and groove edges on the long



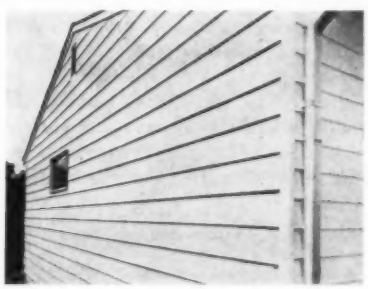
dimensions assure tight fit and smooth surfaces, while 15 lb. felt backing provides resistance to breathing. *Tectum Corp., 105 South Sixth St., Newark, Ohio.*

DRAFTING-REFERENCE UNIT SAVES SPACE, INCREASES EFFICIENCY

A combination drafting-reference unit designed to make more flexible, productive use of available floor space provides each man in a drafting room with his own compact "office." When arranged in a row, the units serve the men in front as reference facilities and the men behind as drawing tables. Efficiency of drafting and engineering operations is increased by making it unnecessary for a man to leave his seat for reference. The drawing table has easy wide-range height and slope adjustments, and all units have island bases with floor-leveling devices. Ample storage in the reference section includes all-steel, ball-bearing operated drawers as well as file space. The reference surface is heavily reinforced steel covered with desk-top linoleum, and the footrest is surfaced with a skid-proof rubber mat. The units are



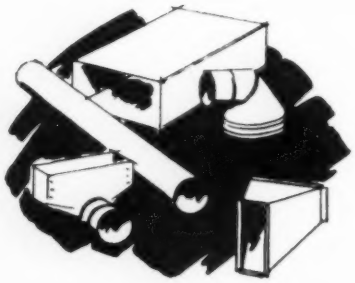
finished in a dark grey hammertone. Also available are blueprint files which interlock and intermember with standard cabinets now in use throughout industry, and are suitable for active and inactive filing of blueprints, maps, artwork, drawings, tracings, electrotypes, boards or swatches. *Stacor Equipment Co., 768 East New York Ave., Brooklyn 3, N. Y.*



MAINTENANCE-FREE CLAPBOARD SIDING

Pre-curing under high pressures and temperatures in a new autoclaving process is said to assure permanence and dimensional stability for a recently developed asbestos-cement clapboard siding. The clapboard is made in panels 48 in. long with a 7¾ in. exposure. Available in white and a variety of colors, the panels are surfaced with a patented material which seals in the color and eliminates cracking and peeling, making painting unnecessary for preservation. The clapboard can be maintained simply by washing with a garden hose. *Ruberoid Co., 500 Fifth Ave., New York 36, N. Y.*

(*More Products on page 272*)



ALUMINUM AIR DUCTS (AIA 30-D-4:1957)

Comprehensive information on residential, commercial and industrial applications of aluminum air ducts is attractively presented in this well-illustrated, spiral-bound reference booklet. A discussion of the advantages and properties of aluminum sheet for air ducts is followed by a complete engineering guide for the design of aluminum duct systems, in which a summary of the design procedure introduces sections detailing each step. Guides for calculating heat gain and heat loss, designing square and rectangular ducts and laying-out perimeter, ceiling-panel and gravity warm-air systems are supplemented by extensive pre-calculated tables, charts, diagrams and step-by-step examples. Detailed instructions for fabrication and installation are included, as well as drafting and estimating guides. Additional chapters offer helpful information on prefabricated ducts, marine applications and noise control. 127 pp. *Reynolds Metals Company, 2500 South Third St., Louisville, Ky.**

Resilient Floors (AIA 23-G)

Technical data book covers the twelve outstanding properties of resilient flooring products and their influence on the architect in making his specifications. 36 pp. *Congoleum-Nairn Inc., Architect Service Dept., 195 Belgrove Dr., Kearny, N. J.**

Recessed Incandescent Lighting Units

(AIA 31-F-2) Latest addition to *Gruber* lighting catalog illustrates, gives engineering data and specifications for recessed incandescent lens units. 20 pp. Folio B-60. *Gruber Lighting, 125 South First St., Brooklyn, N. Y.*

Appalachian Oak

Brochure No. 22 provides detailed information on the properties and uses of Appalachian oak, including full-color illustrations. 8 pp. *Appalachian Hardwood Manufacturers, Inc., 414 Walnut St., Cincinnati 2, Ohio.*

Humidification for Industry

Bulletin 492 discusses controlled humidification, and describes line of automatic humidifiers. 4 pp. *Abbeon Supply Co., 179-15 Jamaica Ave., Jamaica, N. Y.*

Perforated Metal Sheets

Bulletin 45 illustrates and explains application of perforated metal sheets to acoustical ceilings, side walls and enclosures. Also illustrates patterns available in ferrous and non-ferrous perforated metal sheets. 6 pp. *Diamond Mfg. Co., Wyoming, Pa.*

Spanall Horizontal Shoring

Eight-page catalog provides essential engineering and application data for *Spanall* pre-stressed all-metal horizontal shoring. Isometric drawings and photographs illustrate typical installation techniques for all types of beam and slab concrete forms. *Spanall of the Americas, Inc., 787 United Nations Plaza, New York 17, N. Y.*

Rolling Doors and Grilles

(AIA 16-D-13) Catalog G34 describes and illustrates complete line of *Cornell* metal rolling doors, fire doors, flatslat shutters, rolling grilles, sliding grilles and escalator enclosures with hand and motor operators for all types. Detail drawings and specifications are also included. 12 pp. *Cornell Iron Works, Inc., 13th St. and 36th Ave., Long Island City 6, N. Y.**

Metalbestos Gas Vent Tables

Comprehensive guide presents installation data for *Metalbestos* gas vent systems, with diagrams and sketches. Eight tables contain required information for safe installation of gas vents from 3- through 12-in. sizes, including combined installations. 16 pp. *William Wallace Co., Belmont, California.*

Grade-Aid Classroom Equipment

Descriptive folder features *Grade-Aid* "space-saver" modular steel classroom units, with cut-away drawings, measurements, assembled details and specifications. 4 pp. *Grade-Aid Division, Colonial Engineering Company, Inc., Cambridge 38, Mass.**

Hardware

Products Catalog B-3 presents complete line of contract trim hardware specialties and custom designed products. 61 pp. *Builders Brass Works, 3474 Union Pacific Ave., Los Angeles 23, Calif.*

Electrical Boxes and Cabinets

Catalog 10 features *Spring City* line of junction and pull boxes, conduit boxes, hinged cabinets, explosion housings and fixture outlet boxes. Cut-away drawings and an explanation of the specifications and requirements of electrical enclosures are included. 24 pp. *Spring City Electrical Mfg. Co., Spring City 4, Pa.*

Steel Joist Bridging Tests (AIA 13-G)

Technical Bulletin No. IBR reports on the effects of various types of bridging on the behavior of open web steel joists, shortspan series, as indicated by the results of recent tests. Illustrated, 15 pp. *Steel Joist Institute, Dupont Circle Bldg., 1346 Connecticut Ave., N.W., Washington 6, D. C.**

Flour City Curtain Walls (AIA 17-A)

Catalog shows details of various types of metal and glass curtain walls in aluminum and stainless steel, designs for pressed panels, reversible windows in curtain walls, and important points in the fabrication and erection of curtain walls. 12 pp. *Flour City Ornamental Iron Co., 2637—27th Ave., So., Minneapolis, Minn.**

* *Other product information in Sweet's Architectural File, 1956*

(More Literature on page 308)

How **ANEMOSTAT**®

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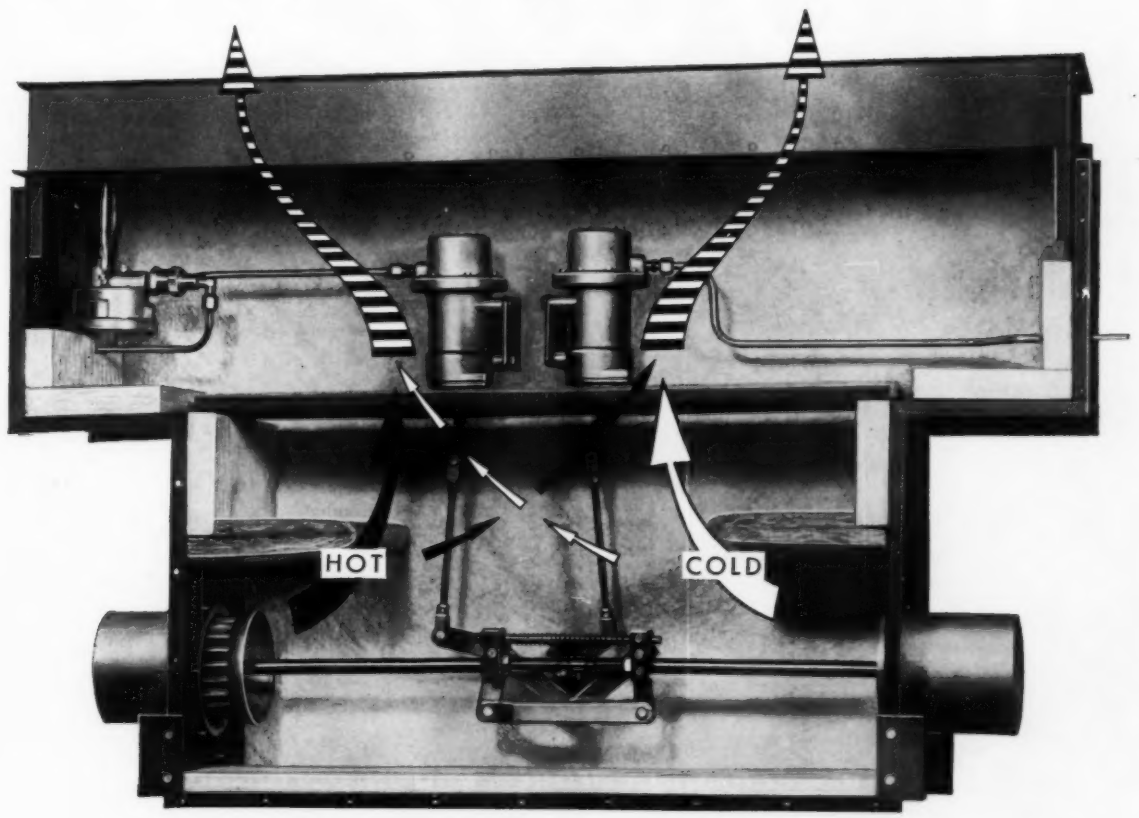
High Velocity units operate



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Each unit is a single package including the controls and integral thermostats, if required. There is complete accessibility of all controls through removable diffusers. No access panels are required. Capacities of CONSTANT VOLUME units can be pre-set at the factory.

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USEFUL CURVES AND CURVED SURFACES: 16 — Remarks on Surfaces, Cont'd

By SEYMOUR HOWARD *Assistant Professor, Pratt Institute, Architect associated with Huson Jackson and Harold Edelman*

Reflection. Analysis of the reflective properties of surfaces can always be made bt, knowing the point source of energy (heay light, sound) and the tangent plane at all points on the surface. Rays can be drawn to each point on the surface and the reflected ray found by the law: angle of reflection equals angle of incidence. It is more revealing to find the image of the source on the opposite side of the surface and then, using this as a center, to draw concentric circles or rays. In general a concave surface will concentrate rays, a convex surface will scatter them.

Structural. In general a curved surface will carry the external forces acting on it by direct stresses only, provided the supports can furnish the required vertical and horizontal reactions and provided the boundaries or edges are properly stiffened. Bending stresses may be set up near the boundaries, near the supports and at points of application of concentrated loads. Bending stresses may be set up where the curvature of the surface changes rapidly and especially at "knuckles" or sharp ridges. These bending stresses can be taken care of by thickening the shell or adding stiffening rings or ribs to the shell.

A surface of double curvature will be stiffer and deform less under load than one of single curvature, but generally it will be more expensive to calculate and to construct. While any imaginable three-dimensional surface can be drawn and built, whether it is susceptible to simple mathematical analysis or not, the description of a surface by relatively simple equations enables the engineer to make a more accurate estimate of the stresses to be expected. The mathematical surface should be taken at the centerline of the thickness of the shell or skin.

The usual procedure is first to analyze the so-called membrane stresses. These are all direct stresses and are found by analyzing a typical region of the surface on the assumption that it has no boundaries. The disturbances set up by the existence of boundaries are taken care of by separate calculations. So-called line loads are applied to the edges. The stresses set up by these are added to the membrane stresses and the net stress calculated. (This is similar to the methods of analyzing continuous frames.)

As in the case of all statically indeterminate structures, curved shells (or stressed skin constructions generally) must be drawn accurately and completely dimensioned before they can be calculated. It is essential that the preliminary guess of shape and dimension be made on the basis of the maximum amount of experience, since the loads to be carried may consist largely of the weight of the structure itself. Simple, rough calculation methods should be used in the early stages until the lightest, thinnest and stiffest combination is found. Then more detailed calculations can be made.

	SINGLE CURVATURE DEVELOPABLE	**DOUBLE CURVATURE** NOT DEVELOPABLE				
		Negative Curvature (Saddle-Shaped)				Positive Curvature (Cup-Shaped)
RULINGS	All Ruled Singly	Ruled Singly	Ruled Doubly (Only Two Exist)		Unruled	All Unruled
NAMES of Some Surfaces	Cones; Cylinders; Tangential Developables of Space Curves	Conoids; Right Circular Helicoid	Hyperbolic Paraboloid	Hyperboloid of One Sheet	Hyperboloid of Two Sheets; Elliptic Paraboloid; Catenoid; Pseudosphere; Inner Half of Torus; Parts of Unduloids; General Helicoid	Sphere; Spheroid; Ellipsoid; Outer Half of Torus; Parts of Unduloids
SURFACES OF REVOLUTION	Cone and Circular Cylinder Only	None	None	May Be	May Be	May Be
MINIMAL SURFACES Mean Curvature = 0 Gaussian Curvature Always Negative	None	May Be (Right Circular Helicoid)	May Be, When Rulings Are At Right Angles	None	May Be. Usually Fall in This Group	None
MEAN CURVATURE $\frac{1}{2}\left(\frac{1}{R_1}+\frac{1}{R_2}\right)$	+	+, 0, −	+, 0, −	+, 0, −	+, 0, −	+. Sphere Is Only Surface (Without a Boundary) of Constant Positive Mean Curvature
GAUSSIAN CURVATURE $\frac{1}{R_1 R_2}$	0	−	−	−	−. A few Surfaces Such as Pseudosphere Exist With Constant Negative Curvature	+. Sphere Is Only Surface (Without a Boundary) Of Constant Positive Curvature

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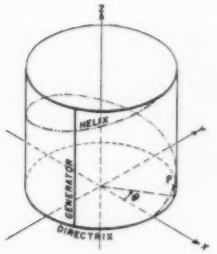
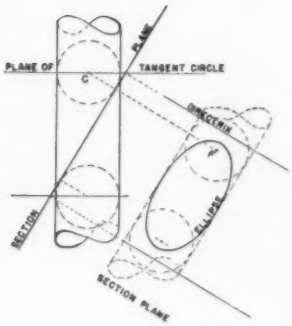
USEFUL CURVES AND CURVED SURFACES: 17—Cylinders and Prisms

By SEYMOUR HOWARD *Assistant Professor, Pratt Institute, Architect associated with Huson Jackson and Harold Edelman*



A cylinder is generated by a straight line element (the generator or generatrix) which moves along a plane curve (the directrix) parallel to an axis which is not in the plane of the curve. When the axis makes a right angle with the plane of the curve, the surface is called a right cylinder. For design purposes we can always arrange the cylinder to be right.

Any curve can be used for the directrix. If a conic is used, the cylinders are quadric surfaces and all sections are also conics. Only quadric cylinders are shown here, but other forms such as a catenary cylinder may be preferable for structural reasons.



The **right circular cylinder** is the surface

$$x^2 + y^2 = r^2; z = z$$

or, in cylindrical coordinates: $r = r$, $z = z$

$$x = r \cos \phi; y = r \sin \phi; z = z$$

[The elliptical cylinder, not shown, would have similar equations derived from those of the ellipse, (see sheet 4 on curves).]

The geodesics on the right circular cylinder are all circular helices and the most useful form of their equation is:

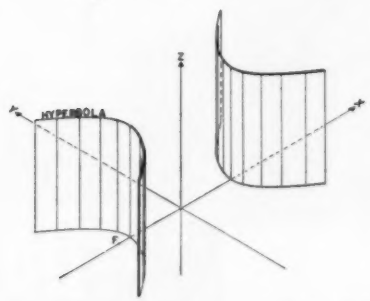
$$x = r \cos \phi; y = r \sin \phi; z = k \phi$$

where $k = \frac{2\pi r}{h}$ and h = pitch of helix or distance traveled in one revolution. The angle ϕ which the helix makes with any generating element = arc tan $\frac{2\pi r}{h}$. Length of geodesic = $z/\cos \phi$ and for one revolution = $\sqrt{(2\pi r)^2 + h^2}$

The projection of the circular helix on the xz or yz planes (i.e. "side elevation") is always a sine curve (see sheet 12 on curves).

The lamellas or elements of a lamella roof (see Time-Saver Standards, 3rd edition, F. W. Dodge Corp., p. 106) trace helices on the surface of a cylindrical roof. The drawing of the parabolic cylinder explains this.

Any **section of a circular cylinder** is an ellipse. The foci of the ellipse are the projections on the section plane of the centers of the spheres tangent to the cylinder and to the plane. They are also the points of tangency of these spheres and the section plane. The directrix of the ellipse is the intersection of the section plane with the plane of the circle of tangency of the sphere.



The **hyperbolic cylinder** is the surface

$$\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1; z = z$$

All sections are conics and are most easily drawn by projecting a few points and using Pascal's method (see Time-Saver Standards, 3rd edition, p. 25).

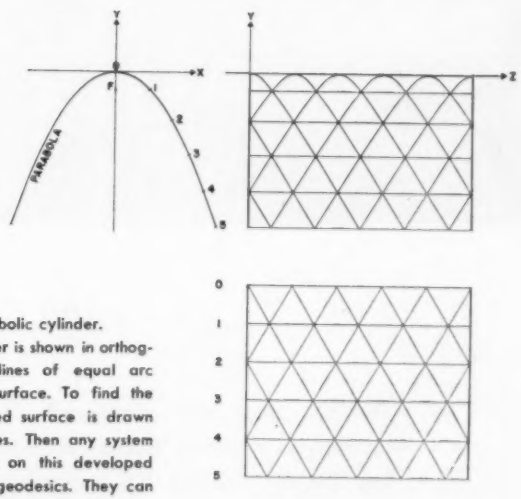
The **parabolic cylinder** (coordinates as shown) is the surface

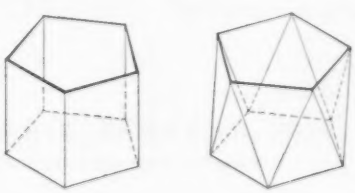
$$x^2 = -2py; z = z$$

Sections are all conics and are drawn as described for the hyperbolic cylinder.

The parabolic cylinder is shown in orthogonal projection with lines of equal arc length drawn on the surface. To find the geodesics, the developed surface is drawn showing these same lines. Then any system of straight lines drawn on this developed surface is a system of geodesics. They can then be projected back on the yz plane.

This method of drawing geodesics can be used for any developable surface. In the case of cylinders the geodesics are all helices or portions of helices. (See sheet 18 for possible regular patterns.)





Prisms or anti-prisms offer convenient approximations to cylinders or may be chosen for their own shape. Any regular polygon can be used for the two bases; for the anti-prisms the two bases are twisted so that the vertices of one are above the mid points of the sides of the other.

(For areas, surfaces and volumes of cylinders, prisms and anti-prisms see Time-Saver Standards, 3rd edition, p. 25.)

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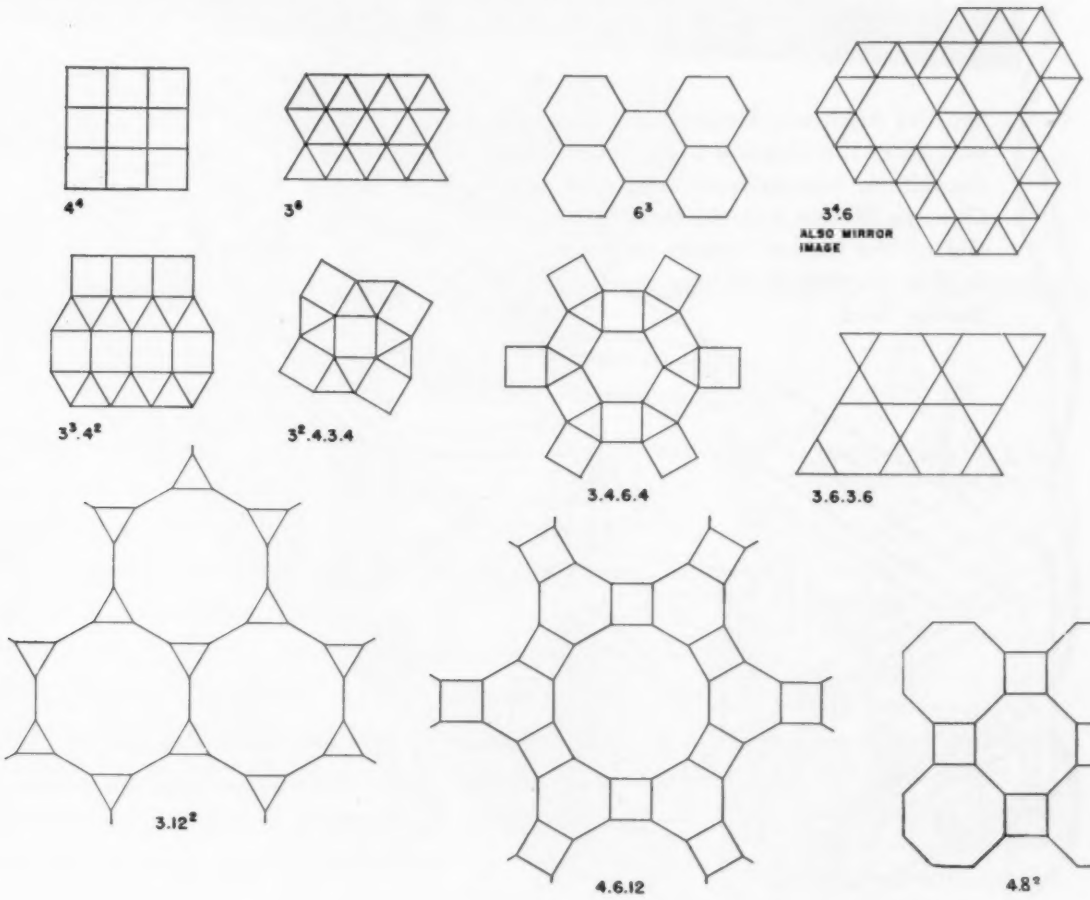
USEFUL CURVES AND CURVED SURFACES: 18—Polygon Patterns

By SEYMOUR HOWARD *Assistant Professor, Pratt Institute, Architect associated with Huson Jackson and Harold Edelman*



REGULAR AND SEMI-REGULAR PATTERNS

The division of a plane into regular polygons is often necessary for structural or decorative reasons. There are only three regular tessellations (patterns) in which all the polygons are regular but not identical; all the sides are of equal length. One of the semi-regular tessellations has two forms which are mirror-images of each other. All vertices are congruent. The notation is based on the vertex figure of each tessellation. The polygons are listed by the number of sides as they are found in sequence around a vertex. These tessellations are related not only to the plane but to every surface which is developable and which can therefore be drawn without distortion on a plane. The sides of the polygons will, of course, all be geodesics. Not every tessellation can be used for every surface; it will be necessary to experiment to find which will fit and which will be most suited to the structural or esthetic purpose. Any polygon used structurally must be held rigid, either by division into triangles or by provision of a continuous membrane.

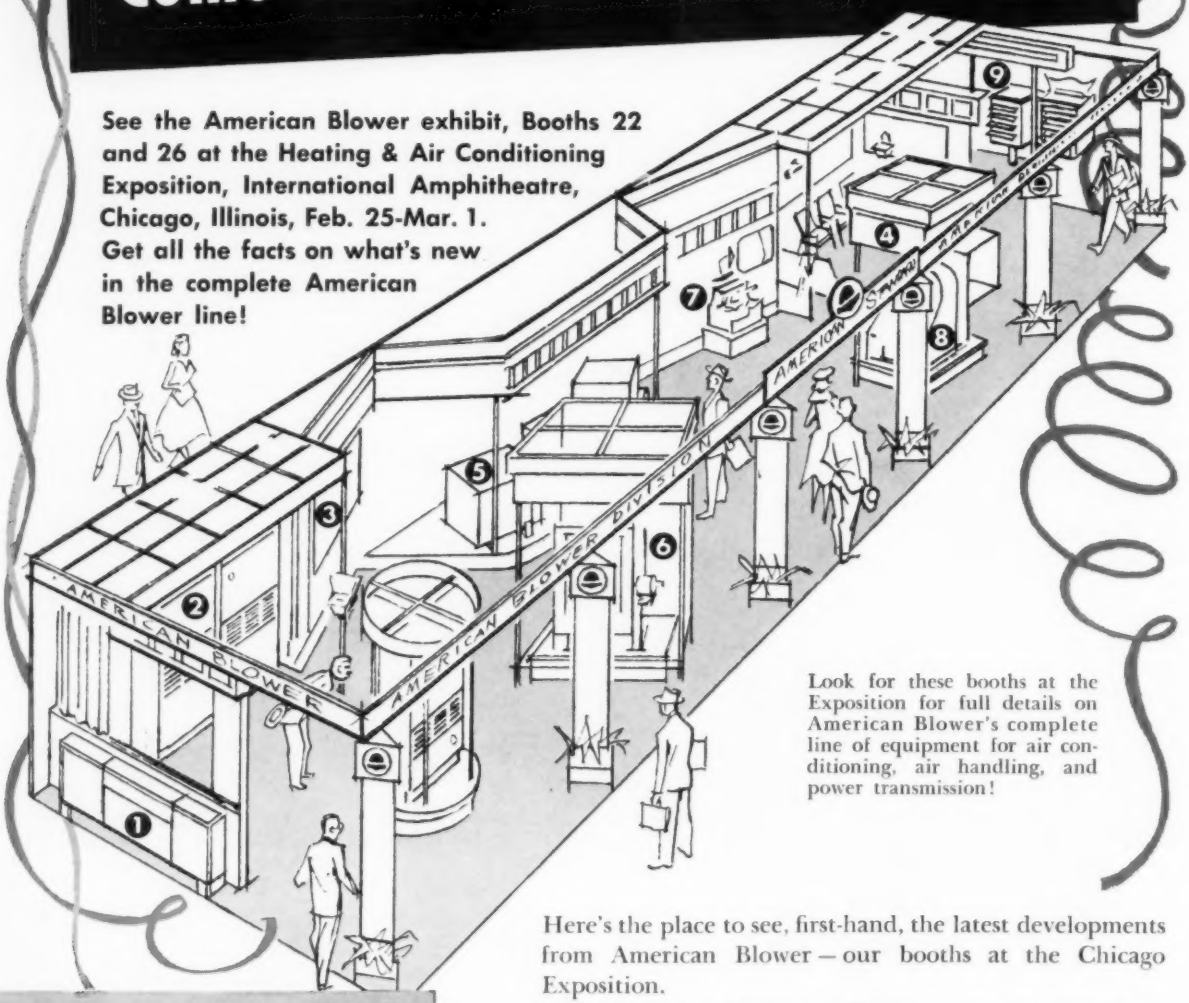
Reference — "Mathematical Models" by Cundy and Rollett

REFERENCES FOR COMPLETE SERIES

1. *Practical Geometry* by David Allen Low, Longmans Green, 1912.
2. *Mechanical Engineers' Handbook* by Lionel S. Marks — section "Mathematics" by E. V. Huntington (McGraw Hill, 1941).
3. *The Mathematics of Engineering* by Ralph E. Root (Bailliere, Tindall and Cox, 1927).
4. *Elements of the Differential and Integral Calculus* by Granville, Smith and Longley (Ginn 1941).
5. *Geometry and the Imagination* by D. Hilbert and S. Cohn-Vossen (Chelsea, 1952).
6. *Mathematical Models* by H. Martyn Cundy and A. R. Rollett (Oxford 1951).

Come visit us at the Exposition!

See the American Blower exhibit, Booths 22 and 26 at the Heating & Air Conditioning Exposition, International Amphitheatre, Chicago, Illinois, Feb. 25-Mar. 1. Get all the facts on what's new in the complete American Blower line!



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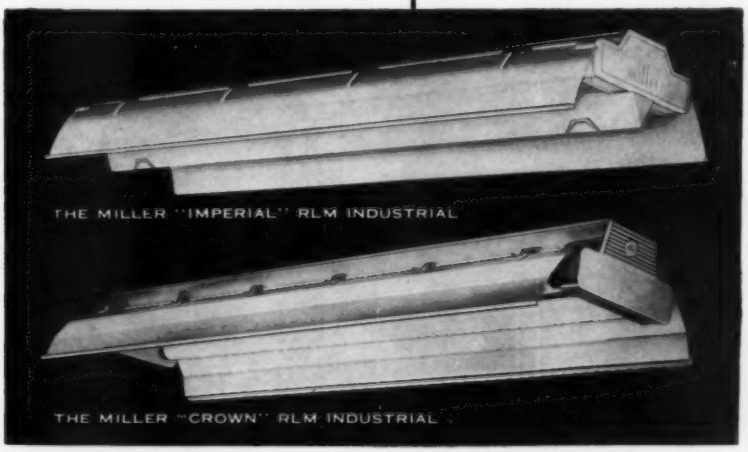

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TECHNICAL ROUNDUP

(Continued from page 242)

CORNELL STUDENTS PLAN "PERFECT" PLANT COMMUNITY

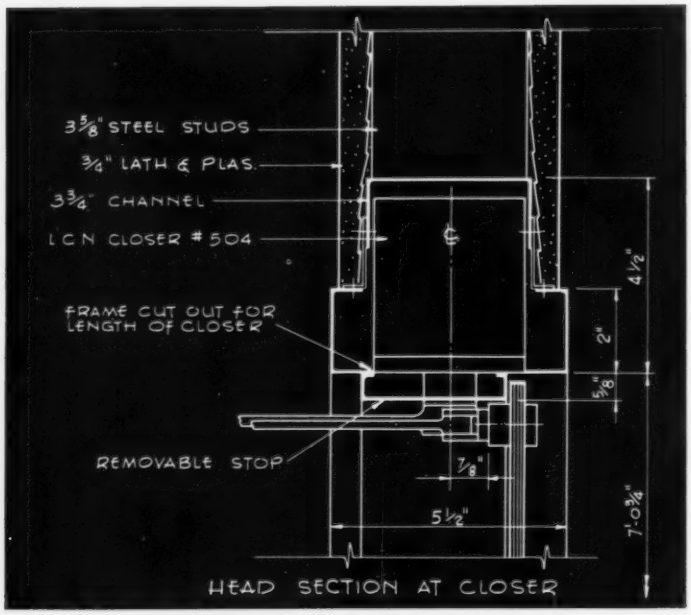
A group of graduate students in city and regional planning at Cornell University recently joined forces with municipal and corporation interests to plan a "perfect" living environment around IBM's new Airborne Computer Laboratories near Owego, N. Y. At the invitation of the International Business Machines Corporation, the students undertook as a class project the preparation of detailed plans for a community of some 5,000 persons, including expected employees, their families and the business and professional people who will provide secondary services to the community. Detailed engineering and social data were furnished by IBM, and close collaboration with company officials as well as with interested citizens of Owego brought the group into direct contact with the problems of the new community, enabling them to work realistically.

Masonry Wall Fire Test

An 8-in. lightweight concrete masonry wall has passed a standard ASTM 4-hr fire test at the University of California. Professor Raymond E. Davis, an authority on building materials, concluded from the tests that the Rocklite lightweight concrete masonry wall could resist the passage of flame and heat for a period of 4 hr and could resist the action of a standard hose stream after the fire.

The Rocklite wall, just 8 in. thick, was built to conform to the minimum requirements of the Los Angeles Building Code for concrete block construction. Reinforcing steel was placed 24 in. on centers, and the cores were filled with $\frac{9}{16}$-in. Rocklite coated expanded shale aggregate to serve as insulation. Although temperatures on the exposed side of the 14- by 11-ft wall reached 2000 F, the maximum average temperature rise on the unexposed side was only 166 F, appreciably lower than the maximum permissible average temperature rise of 250 F. The maximum temperature rise at any one point was only 191 F, much lower than the permissible rise of 325 F. The fire test was followed immediately with the standard hose stream test using water pressure of 45 psi. By all standards the heated wall resisted both the force and the severe thermal shock of the water stream.

(More Roundup on page 258)



CONSTRUCTION DETAILS

for LCN Overhead Concealed Door Closer Installation Shown on Opposite Page

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1. Efficient, full rack-and-pinion, two-speed control of the door
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3. Hydraulic back-check prevents door's being thrown open violently to damage door, walls, etc.
4. Double lever arm provides maximum power to overcome wind and drafts
5. Arm may be hold-open type, 90° to 140° or 140° to 180°

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Construction Details on Opposite Page

Aubinoe, Edwards & Beery, *Architects*

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Foyer of Indianapolis Community Hospital, Indianapolis, Ind., showing ceiling installation of Striatone* Striated Mineral Fiber Tile. **Architect:** Daggett, Naegele & Daggett. **Acousti-Celotex Contractor:** Hugh J. Baker & Company.

This foyer of the Indianapolis Community Hospital is an attractive example of the highly compatible combination of quiet *and* beauty made possible when Acousti-Celotex Sound Conditioning is specified. Incombustible Acousti-Celotex Mineral Fiber Tile was installed throughout corridors, semi-private rooms, laboratories, wards, surgery rooms, nurseries, labor rooms, diet kitchens, other service areas, cafeteria, offices, lobbies, and lounges. Your Acousti-Celotex Distributor will be glad to discuss the use of Acousti-Celotex Sound Conditioning materials in all your projects. Write for information today!

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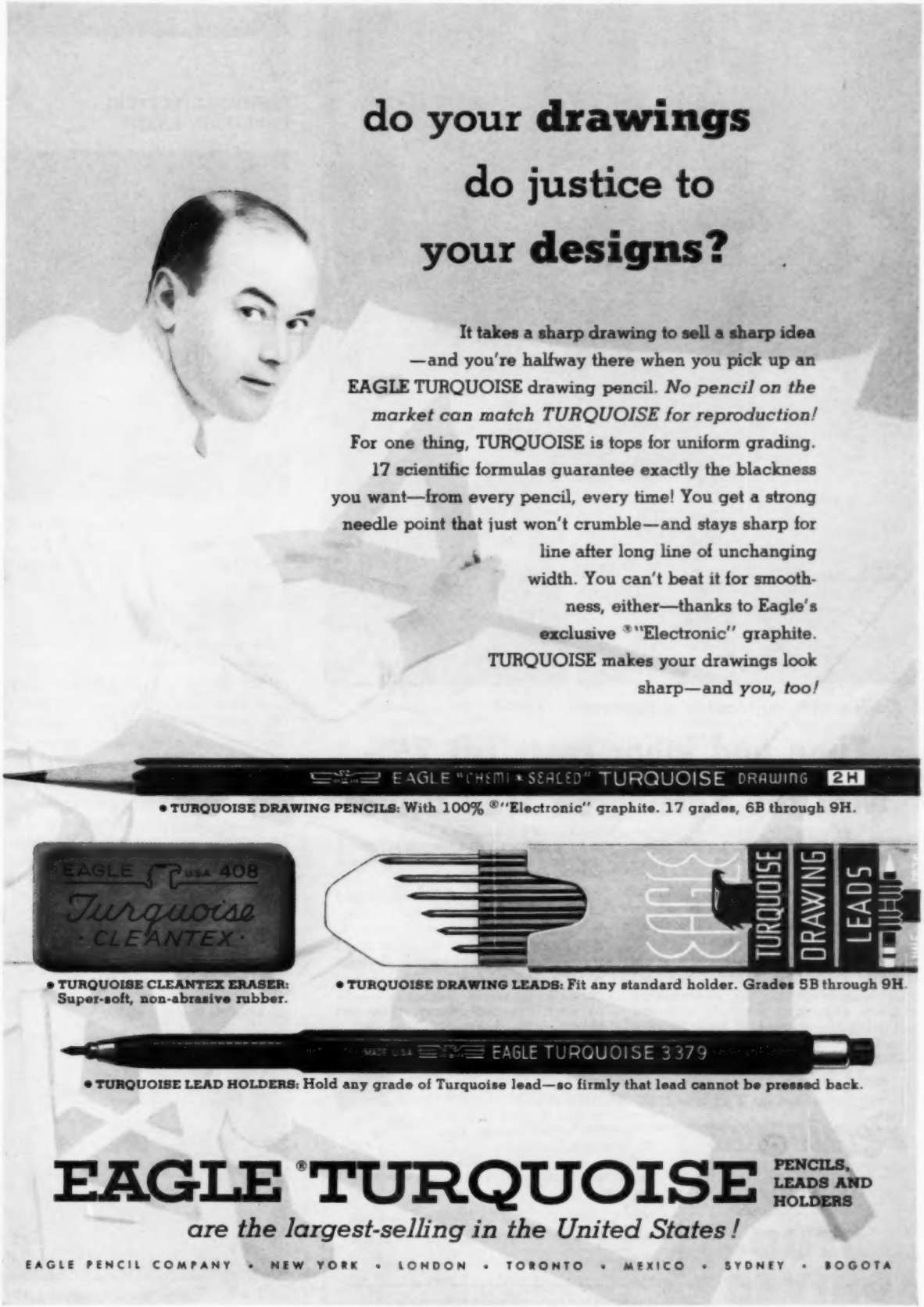
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Time and labor costs cut 75% with the Remington Stud Driver

Out on the California coast, "Research House" has taken shape. It's an experimental house sponsored by Associated Architectural Publications and the latest tools have been used to build it—such as the Remington Stud Driver.

Contractor Bert Pickney says, "The Stud Driver cuts time and labor costs around 75% in anchoring beam supports, partition sills and furring to concrete. It took us only half a day to install the sills—a 2-day job with bolts. No pre-drilling is necessary, and sills are set tight! I certainly recommend the Stud Driver to any contractor!"

YOU CAN SPEED ALL STUD FASTENINGS—light, medium and heavy-duty—with the Remington Stud Driver. It sets *both* ¼" and ⅜" diameter studs in steel or concrete—up to 6 studs a minute either size. The tool is cartridge-powered, portable, ready to work *anywhere*. Forty styles and lengths of Remington Studs to choose from. Get full details by mailing coupon.

Remington

DUPONT

STUD DRIVER

Industrial Sales Division, Dept. AR-2
Remington Arms Company, Inc.
Bridgeport 2, Conn.

Please send me your free booklet which shows how I can speed the job and save with the Stud Driver.

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RESIDENCE FEATURES PORCELAIN ENAMEL

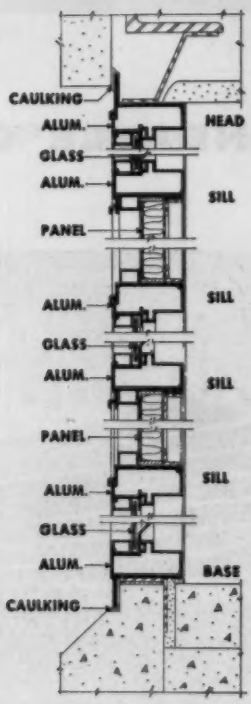
A house built for the vice-president of The Erie Enameling Company in Erie, Pennsylvania, uses porcelain enamel where wood is conventionally used, including the lap siding, gable and planking, trim, soffits, and door and window frames. The exterior walls are of standard frame construction with plaster board and plaster inside and ¾ in. sheathing outside to which porcelain panels are fastened with stainless steel lugs. Special square sections permit smooth joining at the corners. The finished wall has a U factor of below .10, and requires no maintenance. On the interior of the house, porcelain is used for kitchen wall surfaces and counter tops, while the bathrooms are finished completely with pan and lug porcelain enamel panels.

(More Roundup on page 262)

Classic and Modern blend beautifully with

BROWN & GRIST WINDOW WALLS

Dougherty Hall, Villanova University
Henry D. Dagit & Sons—Architects
Joseph R. Farrell, Inc.—Gen. Contractor
Charles G. Noske Co.
B & G Representative—Phila., Pa.



The architects were asked to design a number of new buildings to fit perfectly into the century-old campus of Villanova University. Specifications for this part of the extensive multi-million dollar expansion program also called for spacious functional interiors with plenty of natural light and a moderate cost.

The solution: A traditional over-all design with modern aluminum window walls by Brown and Grist.

In the building shown above, two-story, nine-vented Brown and Grist window walls were designed with unusual panelled spandrels. The result: A tasteful marriage of beauty, warmth and modern functionality.

Brown and Grist window walls in a wide range of sizes, shapes and panels can help solve your design needs, too.

These modern, light-weight window walls go up in days instead of months. And at substantial savings in installation costs, construction costs and maintenance.

B & G window walls offer many other advantages besides savings, speed and lasting quality. For full details, write or wire today. Brown and Grist engineers will work closely with you to meet your own specifications.

See Sweet's Vol. 3a/Br and 17a/Br

B G **BROWN & GRIST, INC.**
25 Tyler Avenue, Warwick, Virginia

Please send: ☐ Free set of catalogs
☐ Name of nearest B & G Representative

to: _____

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Lankenau Hospital/Health Center
ARCHITECT: Vincent G. Kling
CONTRACTOR: Wark & Company

Designed to incorporate all known technical and planning advances for buildings of its type, the new Lankenau hospital outside Philadelphia provides an excellent example of today's architectural achievements. Only the finest materials and products were used in its construction and completion. The "OVERHEAD DOOR" was selected for use wherever garage doors were needed. The fast, dependable and quiet operation of The "OVERHEAD DOOR" is well known to all architects and builders.

HOSPITAL ASSURED OF DEPENDABLE GARAGE

Location: Overbrook, Pennsylvania

In site organization and plan, the new Lankenau takes full advantage of natural opportunities. Built on a former golf course, the buildings crown the highest portion of the land. The main driveway separates to reach parking areas and the garage, where in-and-out operation of vehicles is fast and easy with The "OVERHEAD DOOR."

New Sweet's Catalog—with separate spreads for each door and complete specifications on each spread—provides traceable details drawn to scale, plus a list of The "OVERHEAD DOOR" distributor service organizations.

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DOOR OPENING WITH THE "OVERHEAD DOOR"

The "OVERHEAD DOOR" has enjoyed and appreciated the confidence of architects for more than three and a half decades. The requirements we meet, year after year, add up to a certainty of quality installation and service . . . by exclusively dedicated craftsmen.

The Overhead Door Corporation produces The "OVERHEAD DOOR" in sizes to fit all standard door openings . . . and is glad to cooperate on unusual size doors. America's pioneer and leader in upward-acting garage doors, the Overhead Door Corporation offers a complete line of doors—commercial and residential—with or without electric and Ultronic operators.

OVERHEAD DOOR CORPORATION, Hartford City, Ind.

MANUFACTURING DIVISIONS: *Hillside, N. J. • Nashua, N.H. • Cortland, N.Y. • Lewistown, Pa. • Oklahoma City, Okla. • Dallas, Texas • Portland, Ore.*

FOR 36 YEARS... THE "OVERHEAD DOOR" TRADE MARK *Architects have specified more than any other brand!*

3 quality lines, completely weatherproofed, make Miller sliding glass doors ideal
1 Aluminum "250 Series" for single glazing only.
Snap-on glazing mold accommodates ¼" plate or crystal. Fully Alumilited finish. "Magic-touch" hardware with Lucite pull.
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Converts from ¼" plate to 1" insulating glass (or reverse) anytime without disturbing framing installation. Fully Alumilited finish. Full-grip hardware.
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Made from heavy gauge Bonderized steel. Full-grip hardware with Lucite pull.
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Miller SLIDING GLASS DOORS
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3216 Valhalla Dr., Burbank, Calif.
Write for catalogs. See your Distributor.
Miller doors are 100% weatherproofed with continuous Schlegel double mohair pile.

BUILT-IN BLAST RESISTANCE FOR CLAY MASONRY WALLS

A simulated nuclear explosion was recently set off in an effort to determine the resistance of various types of masonry construction to blasts from atomic and hydrogen bombs. Conducted for the Structural Clay Products Research Foundation of Illinois Institute of Technology, the study showed that structural clay masonry walls can be designed to withstand explosions, tornadoes, earthquakes and other lateral forces without appreciably increasing construction costs. The explosion, which was set off within an eight-sided structure in an abandoned surface mining area near Coal City, Illinois, was designed to approximate forces at 4,600 ft from the center of the blast in "Operation Cue," a nuclear test in which different types of structures were exposed to atomic explosions. The charge, 45 lb of an explosive similar to TNT, was tied to a post in the center of the test structure, ¾ of it above the center point of the wall panels. Seven of the 10 ft square panels were of structural clay masonry, varied as to thickness and reinforcement in order to determine their comparative resistance to the explosion. The single exception was a control wall of 8 in. vertically reinforced concrete block constructed with built-in bottom, pinned top, and two sides free in the same manner as the wall which withstood an atomic explosion in Operation Cue. It was felt that damage to this panel would indicate blast effects at least equal to those imposed on the buildings in the actual atomic test. Half of the walls were built into their vertical supports and spanned horizontally; the rest were spanned vertically, being built-in at the base and pinned at the top as in conventional construction. Four high-speed cameras placed around the structure recorded the effects of the blast. At the conclusion of the test, it was found that the control wall and an 8 in. wall constructed of face brick with a concrete block back-up had been completely demolished. The all clay masonry walls including the 5½ in. SCR brick panel remained structurally sound, indicating that properly designed clay masonry construction has a "built-in" resistance to lateral forces.

(More Roundup on page 266)

How long should a gym floor last?

. . . Maintenance . . .
llation . . . It's the *extra* activities in school gyms that shorten the life of many a floor.

You can't always restrict a gym's use to basketball and physical education classes, so you need a floor with more resiliency, durability and toughness, to withstand any kind of abuse.

Kreolite Flexible Strip End-Grain Wood Block is that kind of flooring.

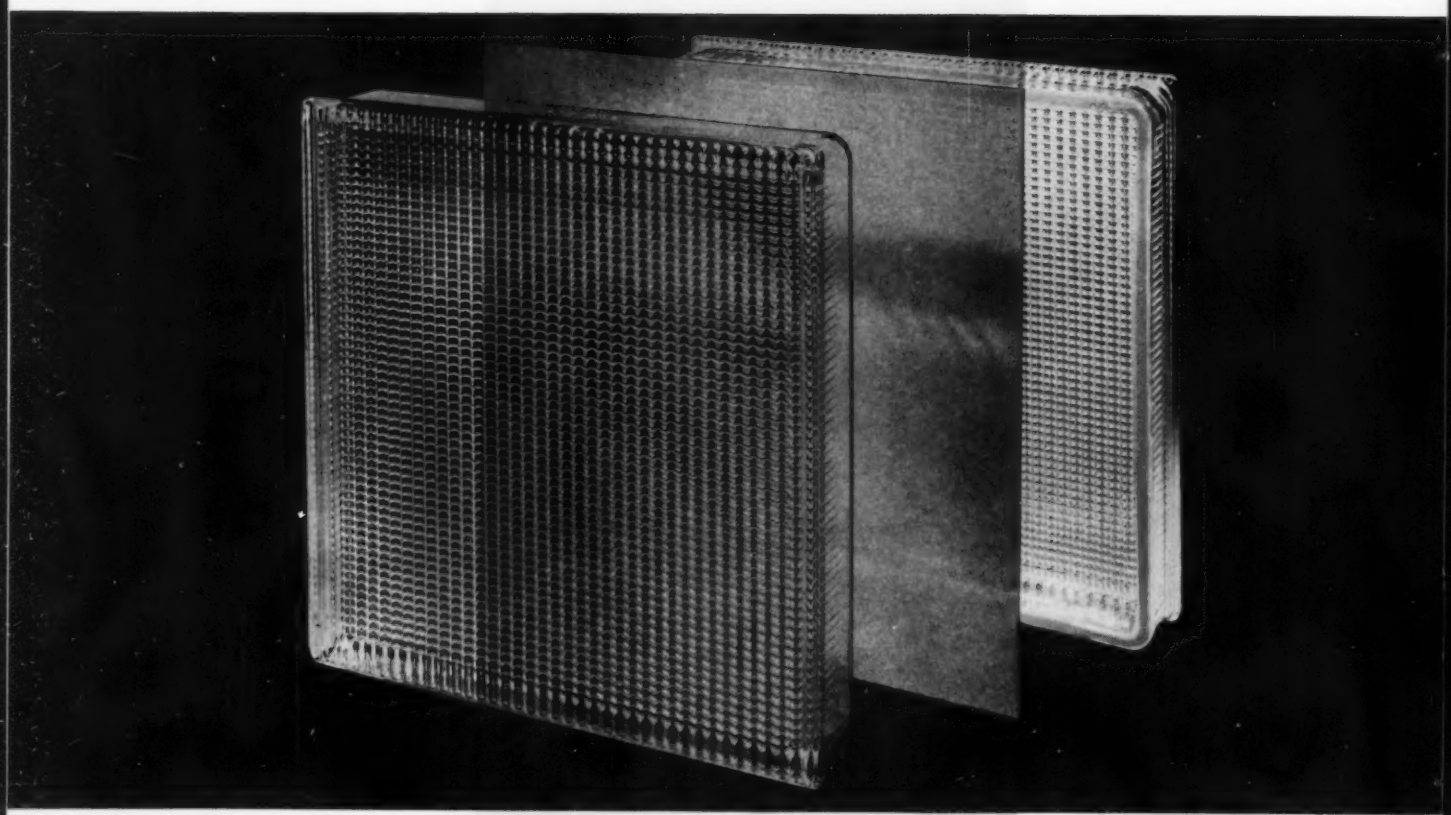
In addition to Kreolite's extra durability, it has a natural warm beauty that requires only a minimum of maintenance to retain its newness year after year.

Special installation techniques and methods have been developed by Jennison-Wright flooring engineers to further assure longer life and complete satisfaction for school floors in the gym, multi-purpose rooms and shops.

Get all the facts on this proven flooring. Write today for complete specifications.

The Jennison-Wright Corp.
TOLEDO 9, OHIO

KREOLITE FLEXIBLE STRIP **END GRAIN**
WOOD BLOCK FLOORS



SUNTROL... color... function

Subtle green Suntrol adds the design expression of color to glass block fenestration. A sealed-in fibrous green screen, shown in the exploded view at the left, produces a pleasing accent tone on panel exteriors . . . a soft, cool glow inside.

Functionally, Suntrol keeps out more heat and glare than other types of glass.

A modular product, Suntrol is available in two sizes—8″ and 12″—and in three types—light-directing, light-diffusing, and toplighting.

Specified for color, or for function, or both, subtle green Suntrol offers the architect a versatile material for forecast designing. Suntrol is an exclusive PC product.

For details, write Pittsburgh Corning Corporation, Dept. C-27, One Gateway Center, Pittsburgh 22, Pa. In Canada: 57 Bloor Street West, Toronto, Ontario.

PC Suntrol* Glass Blocks

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Less expensive installed than any other method of fastening to concrete, because every RED HEAD *drills its own hole!* No expensive explosive charges or drills needed. Once it's in, the concrete itself must fail before it comes out. Can't pull out, rust out, melt out or vibrate loose because of full dovetail expansion. Easy to install, by hand or impact hammer. Write today for your catalog and free sample . . . Demonstration at job site can be arranged.

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CONCRETE FASTENERS
the original since 1916
PHILLIPS DRILL COMPANY, MICHIGAN CITY 3, INDIANA

TECHNICAL ROUNDUP

STEEL FRAME SOLUTION TO FOUNDATION PROBLEMS

To answer the shifting soil problem that perennially plagues foundation-builders, Paul F. Watson of the Watson Foundation Company, Inc., has employed a steel foundation floating on concrete piers for his 2300 sq ft residence in Fort Worth, Texas. The specially constructed piers are anchored on solid bed rock well below the water table to avoid the cracking often caused by soil expansion and contraction accompanying variations in ground moisture content. Sonotube casings on the piers prevent their bonding with unstable upper ground strata. The rigid steel frame is bolted to the piers and spans them without intermediate supports. Exterior masonry walls — including a fireplace — rest on a steel apron of the foundation, keeping the structure entirely above the ground level. It was found that the use of steel resulted in time-saving ease of fabrication, and eliminated over 120,000 lb of concrete.

New Air Conditioning Standards

Standards and test codes for air moving and conditioning equipment were adopted by the Air Moving and Conditioning Association, trade association of the industry at its annual meeting. The new standards, which conform as nearly as possible with those previously published and accepted by the industry, cover commercial and residential fans, steam and hot water unit heaters, dehumidifying air washers, central air conditioning units, and power roof ventilators.

(More Roundup on page 270)

TRIPL-AIRE®
FIXT-AIRE®
No. 92VHV
MULTI-DEFLECTION REGISTER
vertical face bars, horizontal secondary bars, vertical louvers. Also available without valve — No. 92VHO.
No. 93 REGISTER
Vertical front bars set straight, horizontal louvers.
No. 92VOV — SINGLE DEFLECTION REGISTER with vertical face bars and louvers. Also available without valve — No. 92VOO.
No. 92A GRILLE . . . horizontal face bars set at 22° angle for up or down deflection.

PRODUCTS OF THE WORLD'S LARGEST MANUFACTURERS OF REGISTERS, GRILLES and DIFFUSERS . . .

We have no desire to brag of mere bigness. But we do want you to know that H&C TRIPL-AIRE and FIXT-AIRE registers and grilles, introduced for commercial type installations only about a year ago, were designed, engineered and are constructed by the organization which since the turn of the century has been the leading register manufacturer. Hence you can be sure of getting the best that registers and grilles can contribute to a thoroughly satisfactory air conditioning system by specifying H&C.

There are 26 standard sizes providing 260 possible horizontal and vertical deflection combinations . . . plus a wide range of intermediate sizes. Consequently, there's never a need to compromise . . . the EXACT deflection is always available to you. Other salient features include: Front adjustments for control of face bars and louvers; opposed louvers which permit absolute volume control with equal distribution over the entire face; "Decorator Gray" enamel finish and prompt deliveries.

CONVENIENT CATALOG GIVES COMPLETE DETAILS AND ENGINEERING DATA. Available from H&C jobbers or direct from us.

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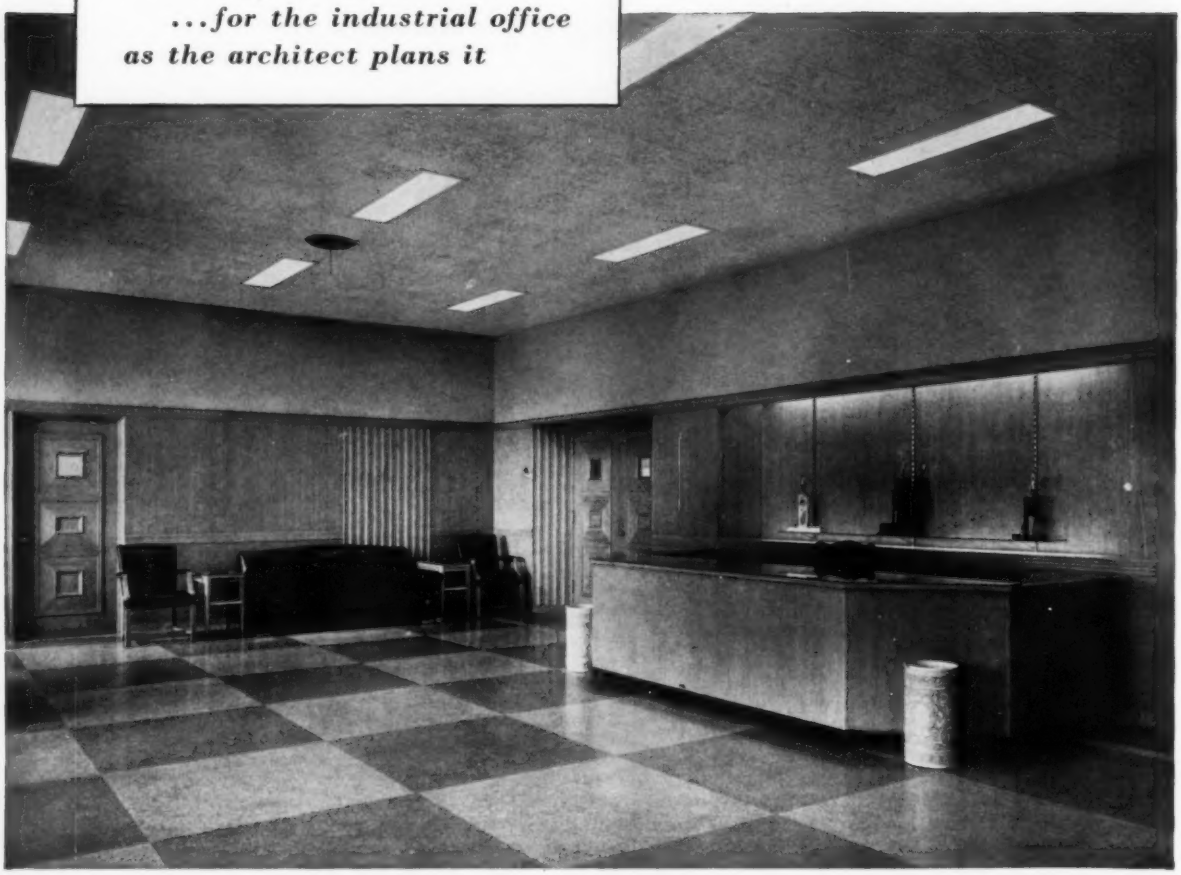
WOODWORK of *Distinction*

...for the industrial office as the architect plans it



Guide Lamp Division, General Motors Corp., Anderson, Ind.
Argonaut Realty Division, G.M.C., Architect
Huber, Hunt and Nichols, General Contractor.

Handsome industrial interiors throughout the nation furnish evidence of two facts important to every architect. *First*, architectural woodwork is the overwhelming choice of leading architects in designing offices, lobbies and conference rooms of taste and beauty. *Second*, architect, designer, contractor and client all profit by this 3-point Woodwork Corporation Service Policy:

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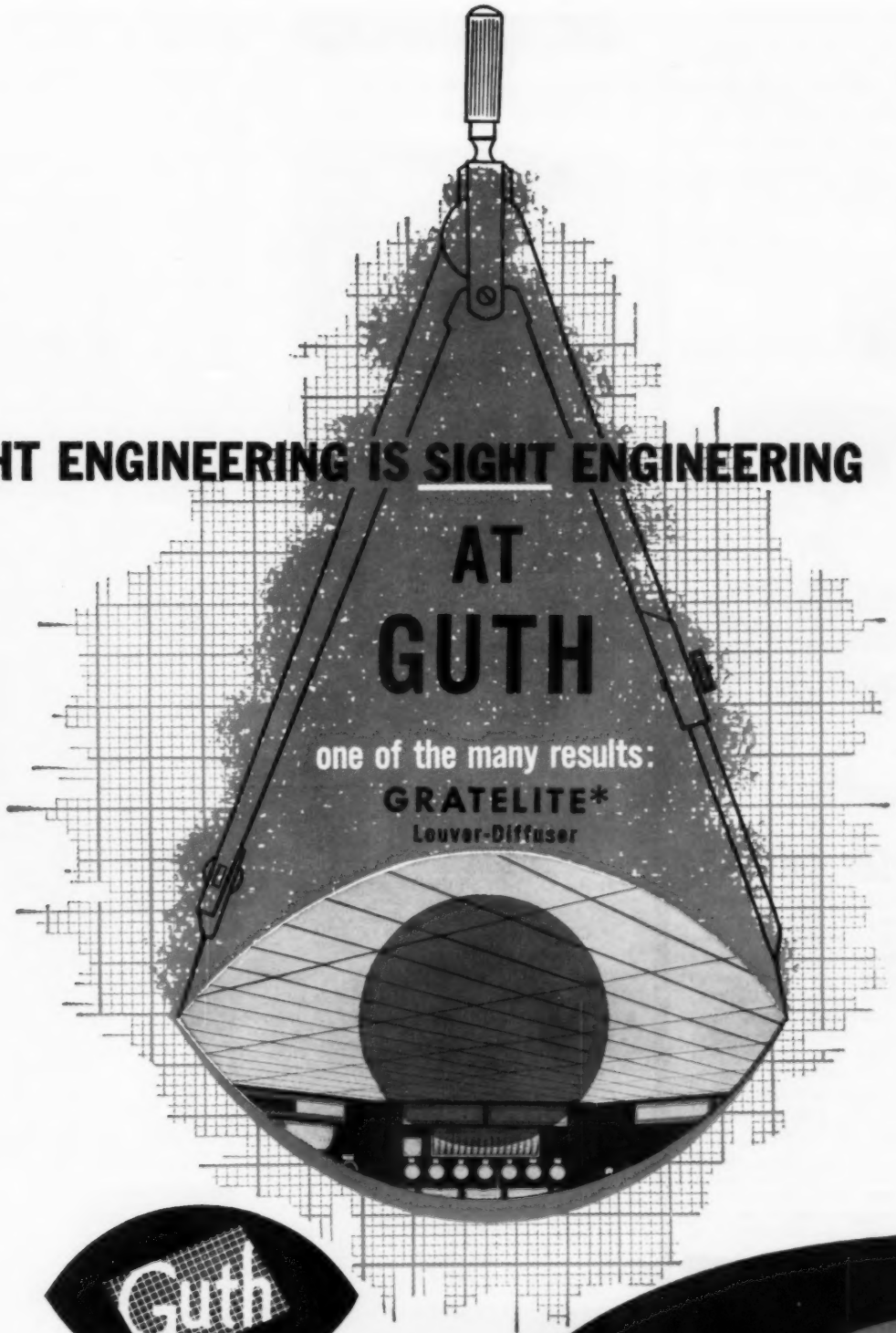

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TRUSTED name in lighting since 1902

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Canadian Patent Pending

• A good chair is like a good wife...if you choose with care, it will look after your comfort and aid you in your work for a long time to come

Cramer CHAIRS ARE

GOOD CHAIRS

Scientifically planned to aid YOU in your work . . . designed to support you comfortably whether you're chewing your pencil or bent over hard at work . . . engineered from the quality materials YOU would recommend, with independently adjustable seat, back and footring to conform to your physique . . . and with removable, replaceable covers in a wide range of fabrics and colors to match YOUR decorating plan.

Pictured, Cramer Hi-Model 4D-22T with forward-tilt seat; others available. All are low-gravity balanced for safe use on casters *if desired.*

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Please send me complete facts on the Cramer Hi-Model chairs designed for working architects and engineers.

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TECHNICAL ROUNDUP

REVERSE FLOW FIREPLACE FEATURES HORIZONTAL FLUE

A prefabricated fireplace unit installed directly in the center of a canted glass window-wall employs the idea of a forced draft horizontal flue which may in many cases allow increased freedom in locating fireplaces. Custom-engineered by Bennett-Ireland, Inc., for the North Carolina home of architect Edward Lowenstein, the reverse flow fireplace consists of a firebox and smoke chest with the smoke drawn down through an underground flue and out to a remote vent. A 1/16 hp draft fan located in a special fan pit at the base of the chimney is connected with the fireplace unit by a 15 ft duct of standard 13 by 18 in. flue tile. The fireplace itself is of welded construction with a stainless steel outer shell and a carbon steel inner shell. Sandwiched between the shells are the alternating layers of one inch rock wool and aluminum foil that insulate the unit. Since a portion of the glass wall bears on the fireplace, the insulation was designed to prevent excessive expansion as well as to contain heat for safety. Heat tests indicated that the outer shell remained safe to the touch even when the inner shell reached temperatures of 750° F.

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consider this: FAR-AIR filters save over 'cheap brands' to pay for your original filter investment several times. You get reasonable first cost, and lower maintenance costs.

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So, no matter how you buy, you'll find it good business to buy FAR-AIR products because they will do a better job at a lower cost. Write us for details.

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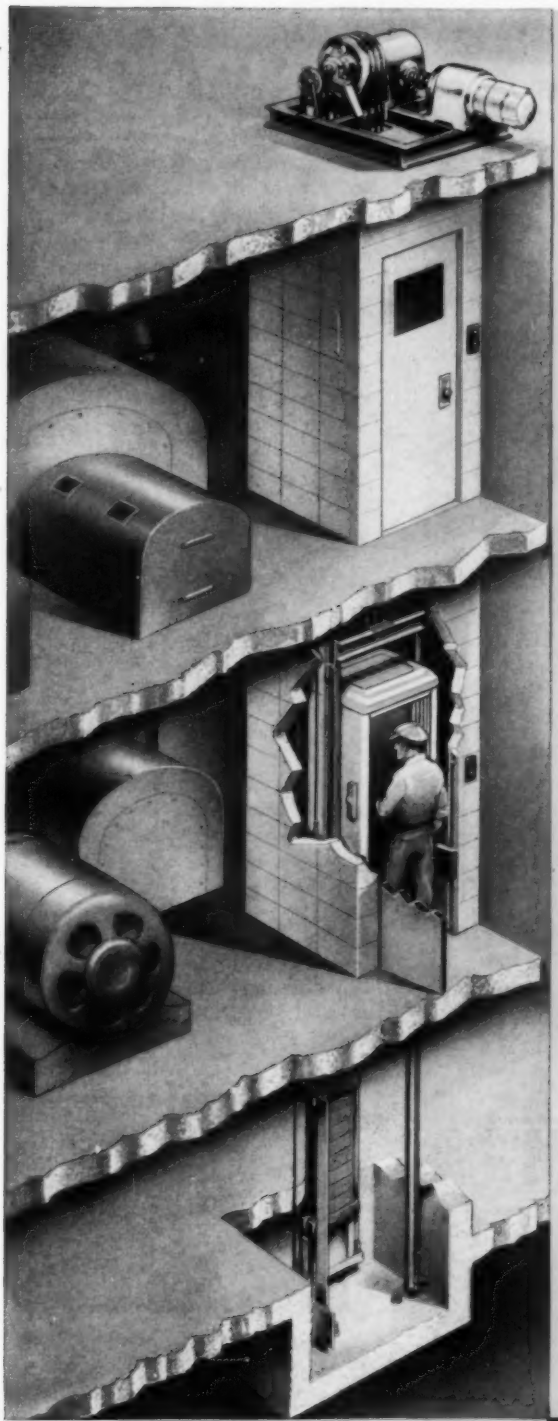

speed production eliminate fatigue increase safety

EHRSAM ELECTRIC ELEVATORS AND BELT MANLIFTS

This rapid, safe transportation between levels for employees pays big dividends in increased efficiency of plant operations. It keeps working spirits high and conserves man-energy. Such inter-floor transportation is economical for any plant with two or more stories.

Ehrsam Electric Elevators and Belt Manlifts are factory-assembled and pretested. Standard speed of Electric Elevators is 90 ft./min.; for special applications speeds of from 50 - 120 ft./min., are available. Standard speed of Belt Manlifts is 75 ft./min.; for special applications speeds of from 50 - 80 ft./min., are available.

ELECTRIC ELEVATORS
Push button car-type electric elevators for one to four passengers.

BELT MANLIFTS
Step-on-type vertical endless belt manlifts for simultaneous traffic in both directions.

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WRITE or WIRE TODAY for illustrated brochure showing typical installations and specifications.

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ENTERPRISE, KANSAS
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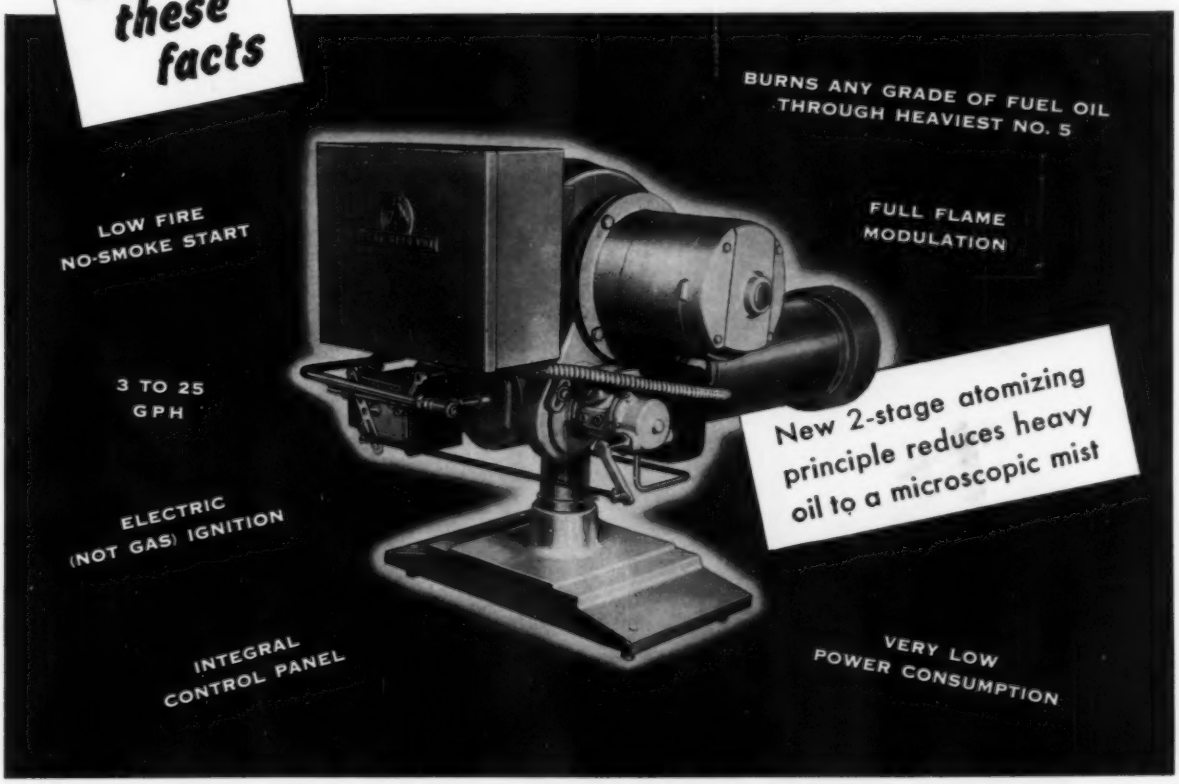
a reliable new method of firing low-cost heavy oils, including heavy No. 5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BURNS ANY GRADE OF FUEL OIL THROUGH HEAVIEST NO. 5
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New 2-stage atomizing principle reduces heavy oil to a microscopic mist
ELECTRIC (NOT GAS) IGNITION
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VERY LOW POWER CONSUMPTION

Why is it called the MicroMist burner?

The basic engineering advance used in the Iron Fireman MicroMist burner is a revolutionary new atomizing method. Heavy oils including *heavy* No. 5, are reduced to minute particles having the characteristics of a gas rather than a spray. The oil is so finely divided that it becomes an oil mist or fog that will remain in air suspension up to 24 hours or longer.

The heart of the Iron Fireman MicroMist burner is an ingenious supercharger, or compressor. The oil is mechanically atomized, as oil and air pass into the compressor. Such mechanical atomization is as far as other burners go. But in the revolutionary MircoMist burner, the compressor-atomizer further reduces the oil spray, by heat of compression, to a microscopic air-oil vapor.

This highly combustible vapor (which is easily ignited by an electric spark) is directed into the firebox by the nozzle. Unlike other oil burners, the nozzle is *not* a critical part, because it has nothing to do with atomization. There are no small passages subject to clogging. Heating of oil is required only for the heavier grades of No. 5, and then only for starting or pumping. The power load is exceptionally low. Extremely precise modulation is achieved through a variable volume pump.

Look at these additional features

The Iron Fireman MicroMist burner is as easily installed as a conventional gun type burner. It has two important uses: as a conversion burner or as a component part of a packaged boiler-burner unit. No special boiler front or boiler pitting is required. The choice of oil grades is almost unlimited. Integral control panel is wired and tested at the factory. Fuel and maintenance costs are low. It fires low-cost heavy oils with little more attention than a domestic oil burner. Available for low fire start, high-low or modulating firing.

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AUTOMATIC FIRING EQUIPMENT FOR OIL, GAS, COAL

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Please send more information and specifications on the Iron Fireman MicroMist burner.

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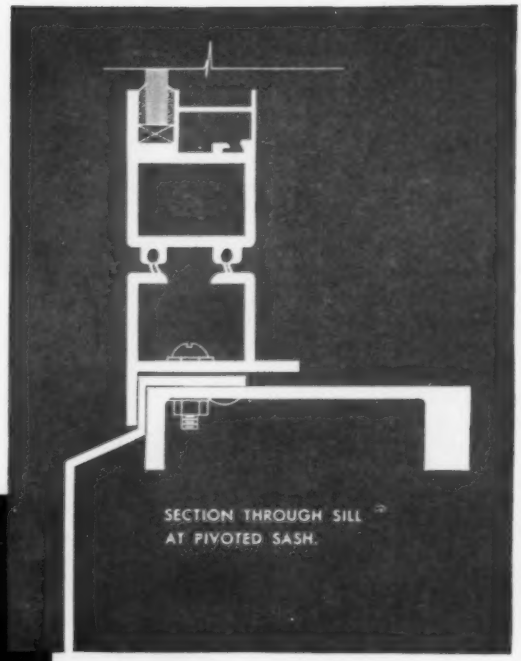
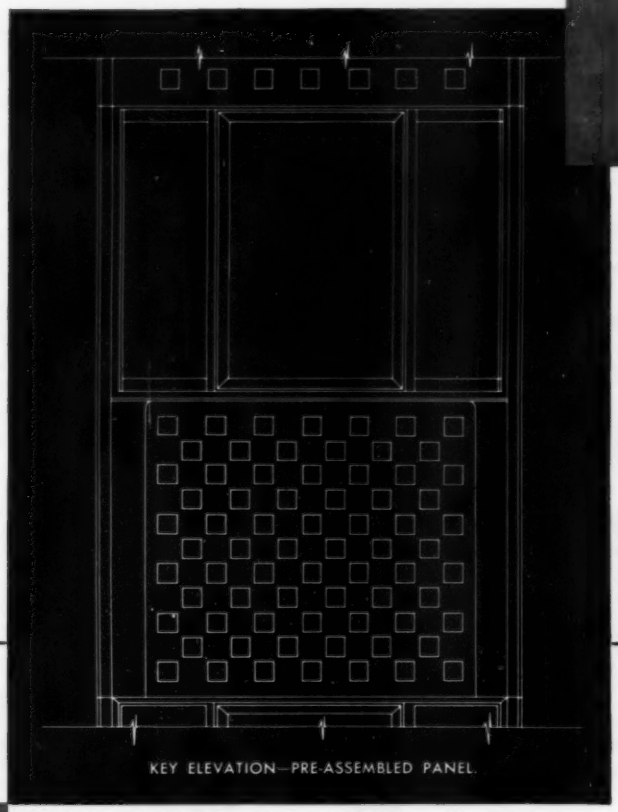




Reynolds Aluminum applications—pre-assembled panels comprising windows and spandrels; also vertical columns between panels. Windows are Reynolds Series 100 Vertically Pivoted, flanked by fixed sidelights. Spandrels are custom-designed in pyramidal pattern, with anodized finish. Vertical columns are porcelain-enameled white.

A
S

ARCHITECTS' SERVICE

Reynolds Architects' Service Representatives offer specialized assistance on aluminum design problems, on applications of standard aluminum mill products, and on the use of commercially fabricated aluminum building products. They can help coordinate aluminum requirements for procurement efficiency and economy. Address Architects' Service, **Reynolds Metals Company**, Louisville 1, Kentucky.

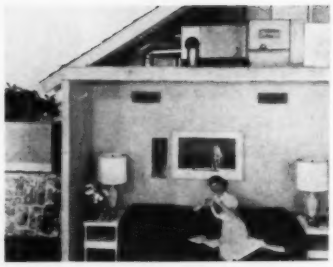
See "CIRCUS BOY", Reynolds dramatic adventure series, Sundays, NBC-TV Network.

ALUMINUM

PRODUCT REPORTS

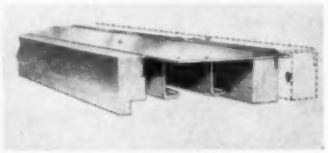
Long-length Gutter

Galvanized steel gutter which can serve an entire house width or length with a single section is now available in lengths up to 32 ft. In addition to the standard long lengths of 20, 25, 30 and 32 ft., "custom lengths" of gutter are made for quantity orders to fit particular building requirements. The style "K" gutter is produced in 10 and 12-in. girths, and 26 and 28 gauge thicknesses. *Republic Steel Corp., Berger Division, Canton, Ohio.*



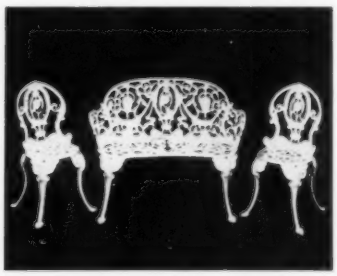
Packaged Heat Pump

Carrier's new packaged heat pump for year-round residential and commercial air conditioning has been engineered to achieve greater efficiency over the whole range of normal heating and cooling operation. The *Heat Pump Weathermaker* is divided into two units with an indoor unit that can be installed in an attic, basement or top of closet and takes up no usable floor space. Since the portion of the heat pump requiring outside air is located exterior to the structure, ductwork is unnecessary to bring in air. from which heat is taken. The new heat pump systems, which can use either air or water as a source of heat, will be available in sizes ranging from 10 to 125 hp. *Carrier Corporation, Syracuse 1, N. Y.*



Packaged Wardrobe Header

Kenna-pak is a packaged unit containing a one-piece header complete with hardware for wardrobes using ¾ in. and 1⅜ in. sliding doors. According to the manufacturer, it solves many installation problems by replacing the old wood head jamb with a thin steel plate. Adjustable to wall thicknesses from 4½ in. to 5⅜ in., the *Kenna-pak* header can be installed by one man as part of the trimming out operation. Factory installed wood nailing strips permit a wide choice of standard trim or casing, while prepierced holes in the header plate extensions make nailing to side jambs easy and accurate. After nailing to the side jambs, the unit is raised into position and nailed directly to studs of the rough opening, independent of the rough header. *Kenna-pak* is available in 48 in.-2 door; 60 in.-2 door; 72 in.-2 door; 72 in.-3 door and 96 in.-4 door packaged sets. *Kennatrack Corp., Elkhart, Indiana.*

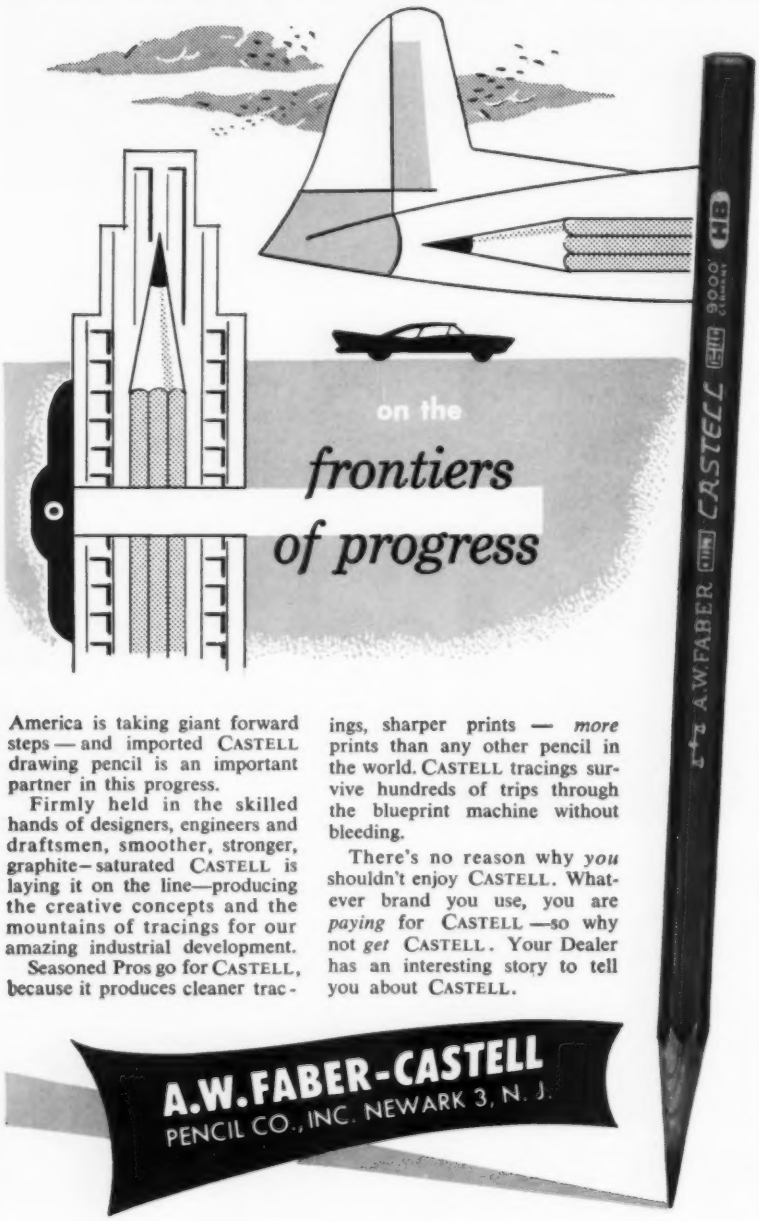


Cast Iron Furniture in Color

Cast iron garden furniture can now be ordered with a sprayed rust-inhibitive finish in white, pink, pastel blue or green, as well as unpainted. Chairs, tables, settees and benches are available in several styles. *Tennessee Fabricating Company, 1490 Grimes, Memphis, Tenn.*

(More Products on page 280)

YOU'LL FIND IMPORTED CASTELL



America is taking giant forward steps — and imported CASTELL drawing pencil is an important partner in this progress.

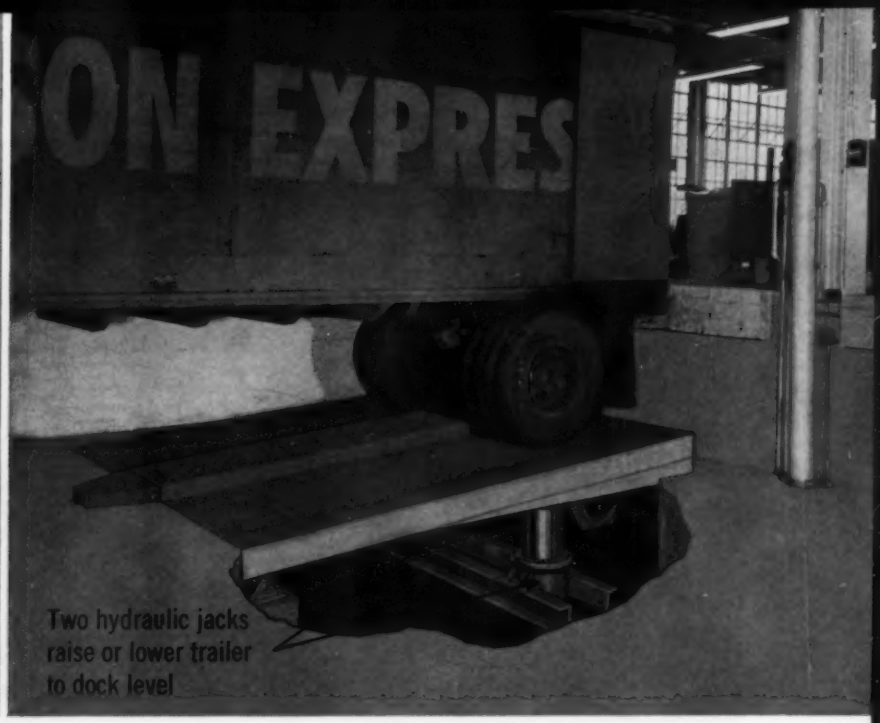
Firmly held in the skilled hands of designers, engineers and draftsmen, smoother, stronger, graphite–saturated CASTELL is laying it on the line—producing the creative concepts and the mountains of tracings for our amazing industrial development.

Seasoned Pros go for CASTELL, because it produces cleaner tracings, sharper prints — *more* prints than any other pencil in the world. CASTELL tracings survive hundreds of trips through the blueprint machine without bleeding.

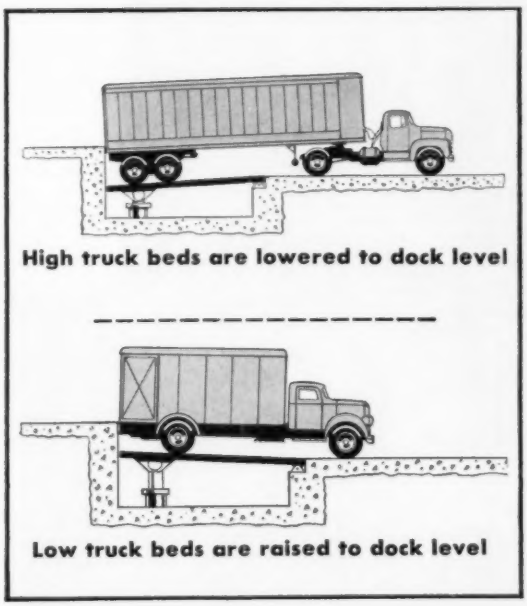
There's no reason why *you* shouldn't enjoy CASTELL. Whatever brand you use, you are *paying* for CASTELL —so why not *get* CASTELL. Your Dealer has an interesting story to tell you about CASTELL.

A.W. FABER-CASTELL
PENCIL CO., INC. NEWARK 3, N. J.

NEW ROTARY Truck Leveler SAVES DOCK SPACE AND SPEEDS LOADING



Two hydraulic jacks raise or lower trailer to dock level



Hydraulic lift helps you design more efficient buildings
The new Rotary Truck Leveler, supported and moved by dual hydraulic jacks, raises or lowers the entire rear section of any highway carrier to bring the bed level with the loading dock platform. It has these important features:

Takes no space . . . installed in pavement in front of loading dock, leaving dock platform completely free of obstructions. Each Rotary Truck Leveler saves 96 sq. ft. or more of the building space required when a ramp is used.

Reduces to a minimum the incline angle between truck or trailer bed and dock. Materials handling equipment can move in and out with maximum speed and safety.

Handles any highway carrier at any loading dock. Has 40,000-lb. capacity and 28″ travel. Will never be made obsolete by changes in materials handling equipment.

Dependable, economical push-button operation by Rotary Oildraulic electric power unit, located wherever convenient. Practically maintenance-free.

Easily installed in shallow pit at new or existing buildings. Does not interfere with closing and locking of overhead doors.

Raised center curb section guides wheels onto runways for fast, accurate truck positioning.

The Rotary Truck Leveler is sold and installed by a nationwide organization. These specialists in hydraulic lifting devices can assist you on design and specifications for single or multiple unit installations. Dependability of the Rotary Truck Leveler is assured by Rotary Lift Company's experience in building over 100,000 oil-hydraulic lifts and elevators. Mail coupon for complete data.

SEE OUR CATALOG IN SWEET'S FILES

Rotary® **TRUCK LEVELER**

Manufactured by ROTARY LIFT CO., Memphis 2, Tenn.

Specialists in oil-hydraulic lifting devices

MAIL FOR COMPLETE DESCRIPTION AND ARCHITECT'S SPECIFICATIONS

Rotary Lift Co.,
1043 Kentucky, Memphis 2, Tenn.

Please send new catalog on the Rotary Truck Leveler to:

Name_____

Address_____

Thousands of travellers pass through these beautiful doors of Polished Misco every month. Note the distinctive, crisp design that typifies modern trends to combine beauty and utility.

SEE OUR CATALOG IN SWEET'S OR WRITE FOR COPY

MISSISSIPPI

NEW YORK • CHICAGO • FULLERTON, CALIF.

WORLD'S LARGEST MANUFACTURER OF

PERFECT PATTERN FOR MODERN DESIGN

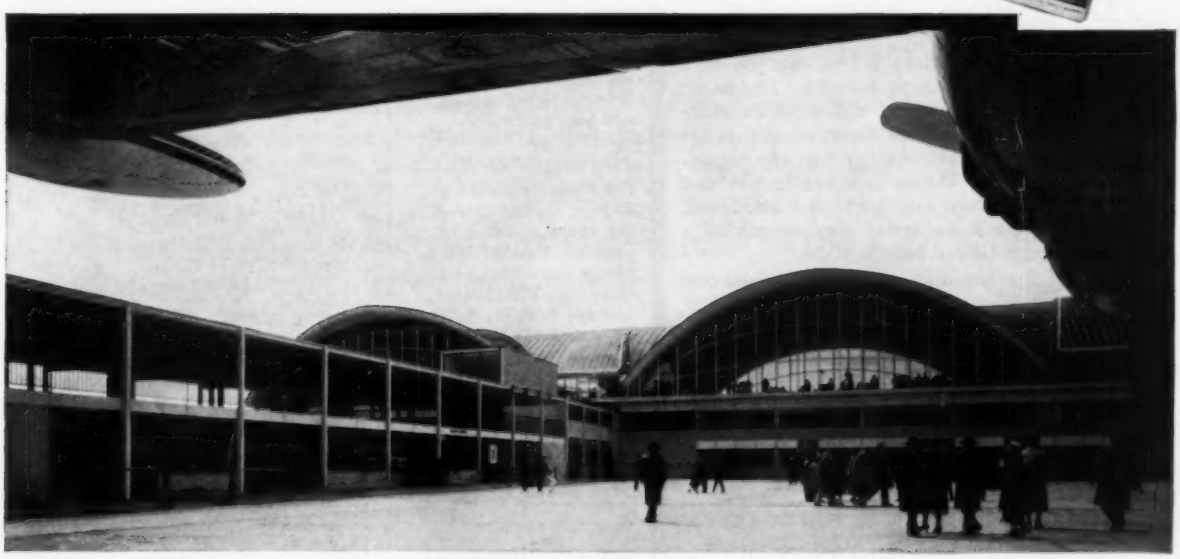
Beautiful Misco Wire Glass Protects Passengers in Concourse Partitions and Doors at New Lambert-St. Louis Air Terminal

Acclaimed for outstanding design, the new Lambert-St. Louis Air Terminal achieves beauty and utility . . . employs so many modern ideas and materials. Misco Wire Glass, with its distinctive diamond-shaped, welded wire netting, is used extensively in partitions and doors of the heavily-travelled concourses. Misco meets the test of traffic at these vital points, withstands the press of crowds, affords a fresh concept of wire glass design that adds beauty to function.

The unusually attractive pattern of this wire glass, so perfect in modern design, enhances the crystal clarity of the dividers . . . fits the modern decor of the entire terminal.

Misco Wire Glass has so many uses in today's structures . . . in doors, windows, skylights, partitions. When you build or remodel, specify glass by Mississippi. Available in a wide range of patterns and surface finishes wherever quality glass is sold.

Write today for free catalog 57-G. Address Department 7.



GLASS COMPANY

88 Angelica St. • St. Louis 7, Mo.

ROLLED, FIGURED AND WIRED GLASS

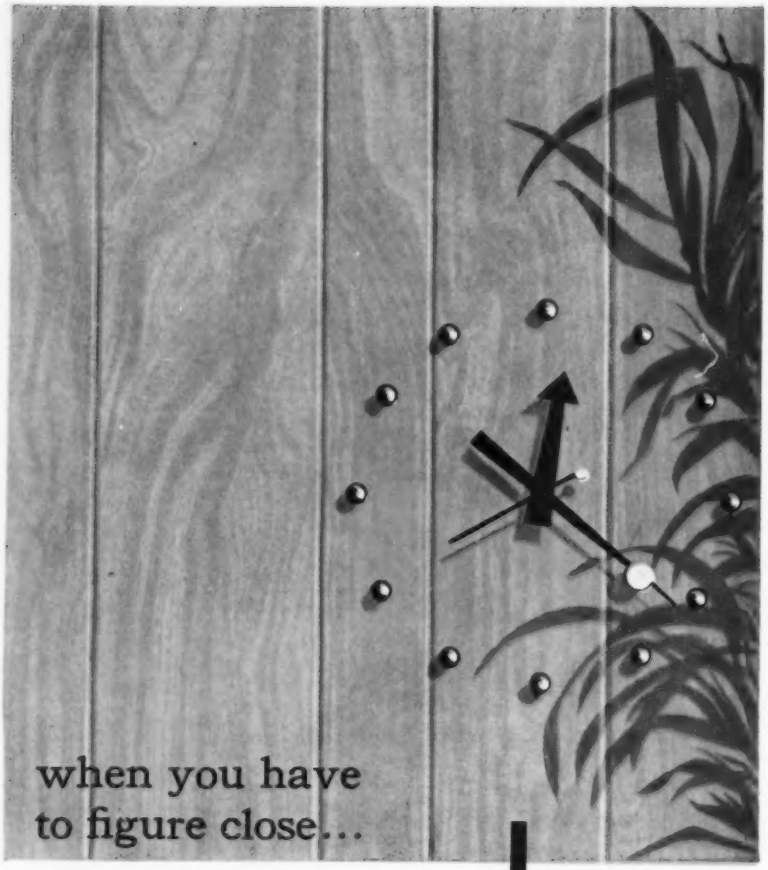


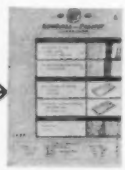
figure on G-P Hardwood Paneling

Delight clients who demand a custom job on a minimum budget! Georgia-Pacific Hardwood Plywood Panelings suggest unlimited imaginative settings for handsome rooms where prestige and good taste must be evident. You can emphasize your creative ability in form, texture and color with the natural beauty of a G-P Hardwood Plywood. There's no better way to match a mood, a personality, a budget.

Blond Cativo, Red Gum, Birch, Honeytone Oak, Blond Oak, Cherry, Walnut.
Completely prefinished and ready to install.
V-Grooved to simulate random planks.
Edges eased for continuous plank effect.
Approximate cost 12′ x 8′ wall $45 to $69.
4′ x 8′ or 4′ x 7′ panels, ¼″ thick.
Face-sealed and back-sealed for stability.
Packaged for panel and surface protection.
Matching moulding available.

Design note—
A timepiece that's a conversation piece for any home or office. The "works" and wiring are hidden neatly between G-P Paneling and base wall.

Return coupon
for Sweet's Catalog 8-page reprint showing the entire line of Georgia-Pacific Specialty Plywoods and their uses. PLUS New 20-page booklet: G-P PLYWOOD WALL PANELING.



GEORGIA—PACIFIC
CORPORATION

Dept. AR2-57, 60 East 42nd Street, New York 17, New York

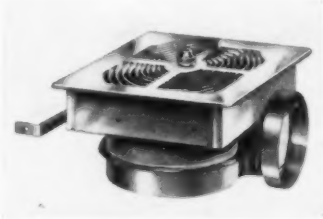
Rush Sweet's Catalog reprint and booklet on G-P Plywood Wall Paneling.

Name_____ Title_____
Firm_____
Address_____
City_____ Zone____ State_____
Check here for free G-P Panel Samples ☐

PRODUCT REPORTS

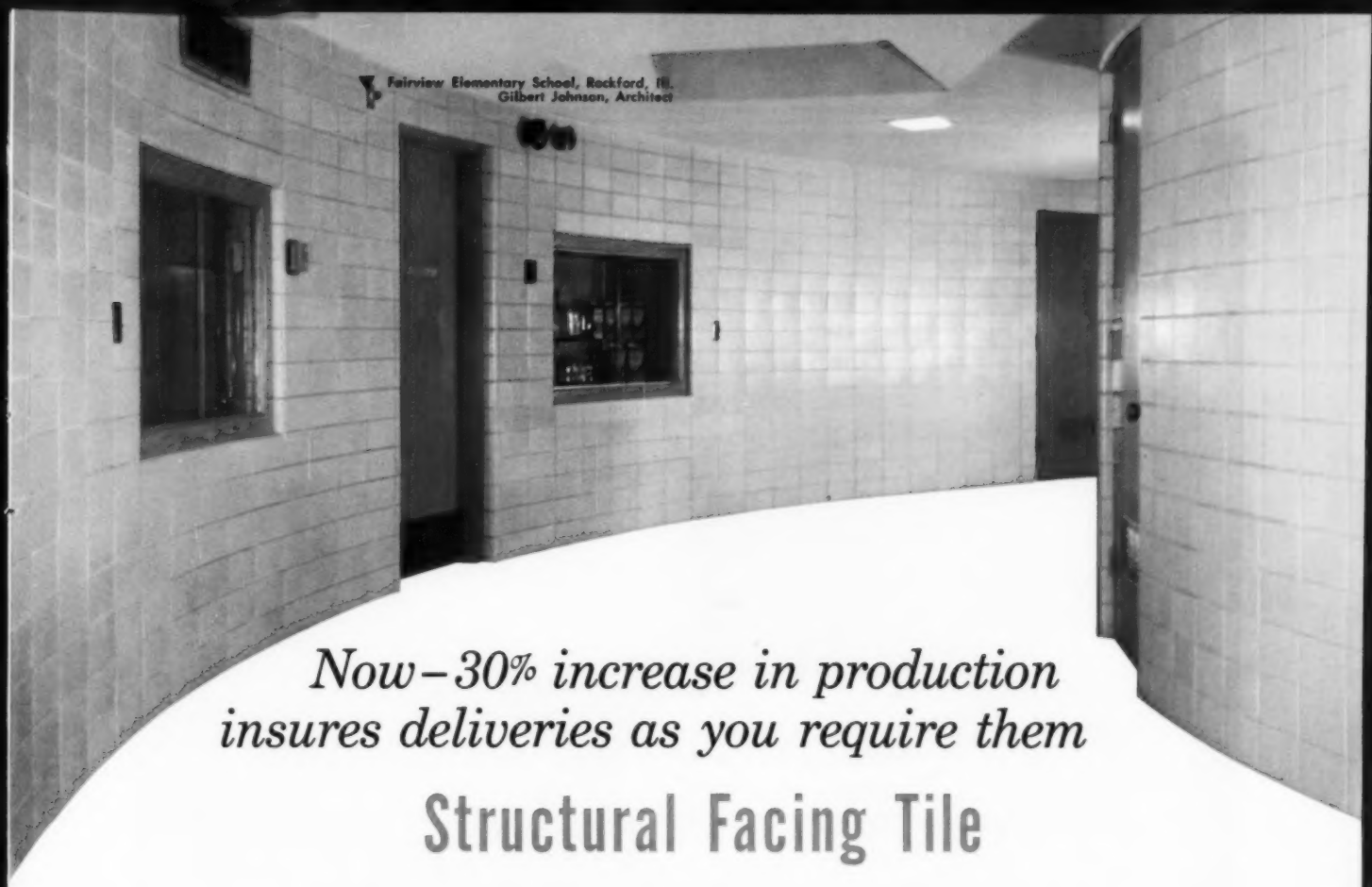
Corrosion Resistant Ducts
Fabricated of a thermo-setting plastic combined with glass or other synthetic fibers, *Duracor* fume ducts and hoods are said to provide a high degree of resistance to acids as well as alkalis and solvents. The new ducts and hoods can be produced to virtually any required shape. *The Ceilcote Co., Inc., 4935 Ridge Rd., Cleveland 9, Ohio.*

Continuous Slab Insulation
Dyfoam, a light-weight plastic insulating material, is produced in continuous slabs up to any practical length. The slabs are 12 in. and 24 in. wide, and range from ½ in. to 8 in. or more in thickness. Specified adhesives adhere the insulation to all types of building materials and to other slabs of *Dyfoam*. The greater length and width reduce the number of joints in any insulating structure, resulting in improved insulation and more rapid installation. The material is particularly suited for floors, walls, and ceilings of low temperature structures and transport. *Dyfoam Corp., New Castle, Pa.*



Compact Bathroom Ventilator
Fasco Model 650, only 5 in. high, fits inside 6 in. joists without protruding and leaves ample space for insulation blankets between joists. The square housing is nailed directly to the side of the joist with an adjustable support bracket spanning to the next joist. A large diameter squirrel cage blower wheel with special housing and entrance venturi, and the oversize rubber-mounted motor give 100 cfm air delivery. *Fasco Industries, Inc., Rochester, N. Y.*

(More Products on page 284)



▼ Fairview Elementary School, Rockford, Ill.
Gilbert Johnson, Architect

Now–30% increase in production insures deliveries as you require them

Structural Facing Tile

Beautiful, load-bearing walls of Structural Facing Tile offer the *most* time-tested advantages for schools, hospitals, and commercial and industrial structures.

Fireproof, *durable* walls with rich, permanent colors and smooth, rugged surfaces that clean sparkling new with soap and water.

Elimination of maintenance and refinishing costs insures your clients tremendous savings over the years. First cost is low, too, because modular sizes lay up fast . . . a single material and a single trade.

FACING TILE INSTITUTE

1520 18th Street, N. W., Hudson 3-4200, Washington 6, D. C.

FTI STRUCTURAL

In the interest of better Facing Tile construction these companies have contributed to this advertisement. **CHARLESTON CLAY PRODUCTS CO.**, Charleston 22, W. Va. • **THE CLAYCRAFT CO.**, Columbus 16, Ohio • **MAPLETON CLAY PRODUCTS CO.**, Canton, Ohio • **METROPOLITAN BRICK, INC.**, Canton 2, Ohio • **McNEES-KITTANNING CO.**, Kittanning, Pa. • **NATCO CORPORATION**, Pittsburgh 22, Pa. • **STARK CERAMICS, INC.**, Canton 1, Ohio • **WEST VIRGINIA BRICK CO.**, Charleston 24, W. Va.

▼ Orrville High School, Orrville, Ohio,
Firestone and Motter, Architects

QUIET ELEGANCE

The EMPEROR

by ***BRIGGS BEAUTYWARE***

SUPERIORITY YOU CAN DEMONSTRATE

The magnificent Emperor—shown here in round- and elongated-front models—gives you a definite sales plus because it is the finest closet on the market and its superiority is immediately apparent.

The low, massive one-piece design is luxuriously modern and its non-overflow feature and almost inaudible operation are easily demonstrated.

The Emperor—another outstanding example of Briggs craftsmanship—is available in the five famed Beautyware compatible colors and in white.

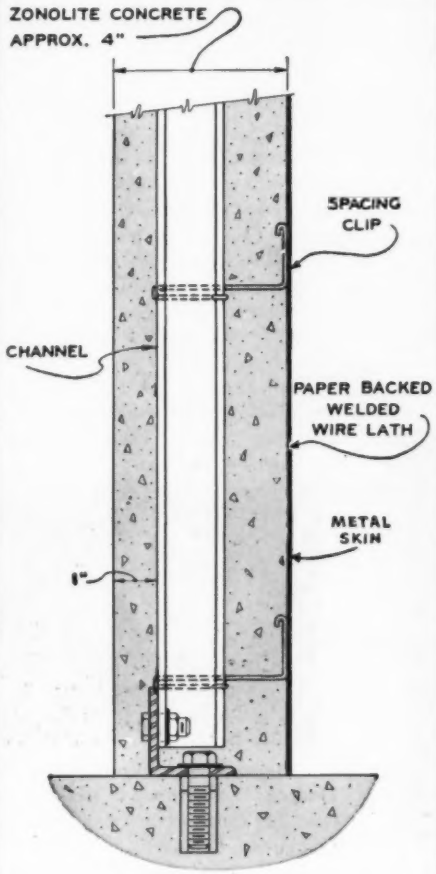
Lead with your ace: Stock or specify the Emperor for sales acceptance and customer satisfaction.

BRIGGS
beautyware

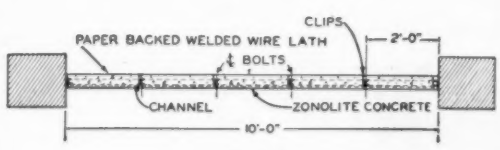
BRIGGS MANUFACTURING COMPANY • DETROIT, MICHIGAN

Amazing New "THIN-WALL" System Earns 5-Hour Rating

SPEEDS CONSTRUCTION—CUTS COSTS



SPANDREL BACK-UP



PLAN

Machine Placed

ZONOLITE®

CONCRETE

Provides All These Advantages

INSULATION | **FIRE SAFETY**

WIND RESISTANCE | **ECONOMY**

EASE OF APPLICATION

Now for the first time, you can specify a spandrel or panel wall WITH A 5-HOUR FIRE RATING and at the same time achieve tremendous savings through weight reduction and rapid machine application. It's the new Zonolite vermiculite "THIN WALL."

The 5-hour rating was awarded in August, 1954, by Underwriters' Laboratories to a vermiculite concrete spandrel wall. This exceeds the rating of *any other* spandrel wall back-up. The vermiculite spandrel panel provides good insulating properties and has a 30 lb. per square foot wind pressure, more than adequate for multi-story building construction. Machine-placing cuts working time to a minimum.

SEND FOR COMPLETE DATA FILE

Send coupon today for kit, containing Underwriters' Laboratories fire test, design data, drawings, and other important information. No obligation.

ZONOLITE COMPANY
135 South LaSalle St. • Chicago 3, Illinois

ZONOLITE Company, Dept. AR-27
135 S. LaSalle St., Chicago 3, Ill.

Please send me free kit detailing amazing new "THIN WALL" system which earned Underwriters' 5-Hr. rating.

NAME _____

FIRM _____

ADDRESS _____

CITY _____ ZONE ____ STATE _____

Swimming Pool Filter

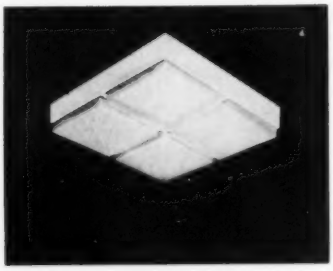
The *Centri-Mite BF* filter utilizes diatomaceous earth introduced through a slurry feeder. A dial selector valve controls the filter cycle as well as a two-phase backwash system in which the normal reversed flow of water is followed by a rotating spray that washes down filter elements. Sizes range from 36 in. diameter tanks with 115 sq. ft. filter area, to 20 in. tanks with 34 sq. ft. area. *Swimquip, Inc., 3301 Gilman Rd., El Monte, Calif.*

Levelling Instrument

On the principle that water always seeks its own level, a pair of gauges attached to a water-filled garden hose may be used to level such construction jobs as foundations, batter boards, floors, swimming pools, tennis courts, grade drainage ditches, seepage fields and landscaping. Slide washers are set at the water level in the gauges and the *Level-rites* clamped to the points to be checked, with the push pull valve open. When the water level is at the slide washer, the points are level. Lengths of hose may be attached to make level checks of points several hundred feet apart. *Level-rite, Granby, Conn.*

Prefinished Wall Paneling

Mellowood is a genuine hardwood veneer panel that can be bonded to almost any surface with a special waterproof adhesive. The factory prefinished panels are applied directly to the wall without furring, clipping or nailing. They come in 16 in. squares, and random-width planks 4, 6 and 8 in. wide and 8 ft long. Both squares and planks are ⅛ in. thick. Four woods, Leaf Walnut, Quartered Walnut, Rift Oak and Cherry, are available. *National Veneer and Lumber Co., Seymour, Indiana.*



Incandescent Modular Lighting

Designs in a new group of modular light *Calculites* range from a single incandescent square to a 4-square module. Each module is approximately 9 in. square. Stressing clean, crisp lines and a "built-in" look without installation, the fixtures have shallow white metal sides which may be painted to match the ceiling. The 4-light *Calculite* is said to provide as much illumination as a 2 ft. long fluorescent fixture while preserving the qualities of incandescent lighting. A spring enables each glass module to be pulled down individually, and to remain safely suspended during cleaning or relamping. *Lightolier, Inc., Jersey City, N. J.*

(More Products on page 288)

ARCHITECT'S BUILDING-101 PARK AVE.

NORTH ENTRANCE, 146 E. 41 ST.
New York City

ARCHITECTS
R. B. O'Connor & W. H. Kilham, Jr.

← Exterior View

↓ Interior View from Lobby

6 Balanced Doors
in the north entrances to
the Architect's Building.

more . . . .
Ellison
doors

The Door that lets
TRAFFIC through QUICKLY

ELLISON BRONZE CO.
Jamestown, New York

representatives in 77 principal cities in the United States, Canada and Puerto Rico

Ellison
the BALANCED DOOR

AIRCOUSTAT SILENCES ALL FREQUENCIES IN THE AUDIO-FREQUENCY RANGE!
Resonators hold low-frequency sounds
Periodic internal structure dampens middle-frequency noise
Sound-absorbent materials suppress high frequencies

AIRCOUSTAT* Sound Traps eliminate air conditioning noise at 50% less cost

Acoustical Performance Guaranteed. Easy to Install. Pre-Engineered — No Design or Layout Headaches.

Revolutionary AIRCOUSTAT Sound Traps require no special tools for installation . . . reduce your labor costs and lower your installation time. Units fit any size or shape of duct. If AIRCOUSTAT fits *geometrically*, it fits *acoustically*.

AIRCOUSTAT is the most efficient method of sound-deadening you can provide your customers. A 7-foot AIRCOUSTAT unit suppresses as much sound as 100 feet of ordinary duct lining. AIRCOUSTAT eliminates all frequencies in the entire audio-frequency range, silences entire systems or selected outlets. Flow resistance and pressure drop are lower. 4 series cover applications ranging from general offices to recording studios.

Discover how AIRCOUSTAT Sound Traps can save you time and money . . . create greater customer satisfaction.

*Koppers Trade Mark

KOPPERS **INDUSTRIAL SOUND CONTROL**

Engineered* Products Sold with *Service

MAIL THIS COUPON TODAY

KOPPERS COMPANY, INC., Metal Products Div., Industrial Sound Control Dept., 6602 Scott St., Baltimore 3, Md.
Gentlemen: Please send me a free copy of your booklet on AIRCOUSTAT Sound Traps.

Name..... Title.....

Company.....

Address.....

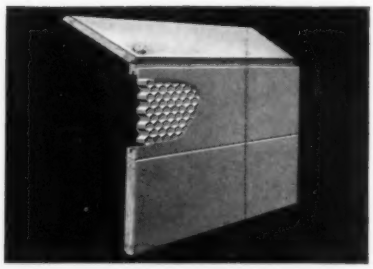
City..... Zone..... State.....

(*Advertisement*)

Weatherproof flush overhead doors

Flush-type overhead doors with guaranteed weather resistance and high insulation value are available for the first time with the new Weather-King Flush Barcol OVERdoor Sections, featuring honeycomb core sandwich construction, hardboard facings. Weather-King Flush Barcol OVERdoors, with patented Cam Action tight closing, offer weathering and insulation values comparable to the outside walls in which they are installed.

The manufacturer, Barber-Colman Company, Rockford, Illinois, was also first to use hardboard panels in garage and industrial doors. Nationwide distributors install and guarantee Barcol OVERdoors.



Weather-King Flush Sections

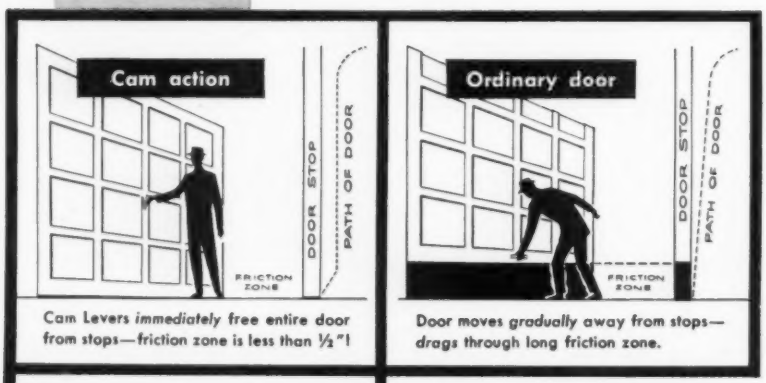
The illustration above shows how weatherproof hardboard facing is applied to a honeycomb core in the construction of Weather-King Flush Barcol OVERdoor Sections. Facing is guaranteed not to split, crack, delaminate, or weather-chip. Small captive air cells of resin-impregnated honeycomb core eliminate convection currents and provide insulation equal to that of a 5-in. house wall—U factor .259. Redwood closures withstand severe weathering conditions, bonding adhesive is impervious to moisture. *For booklet write Barber-Colman Company, Dept. P72, Rockford, Illinois.*

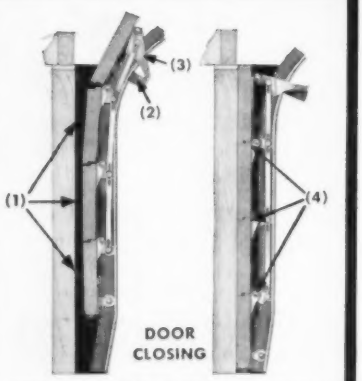
THE MARK OF QUALITY

BARBER COLMAN

Barcol

OVERdoors close tighter, yet open easier!


Cam action
DOOR STOP
PATH OF DOOR
FRICTION ZONE
Cam Levers *immediately* free entire door from stops—friction zone is less than ½"!
Ordinary door
DOOR STOP
PATH OF DOOR
FRICTION ZONE
Door moves *gradually* away from stops—drags through long friction zone.



SEE HOW CAM ACTION WORKS!
(1) Uniform ⅜" clearance assures all-weather friction-free opening and closing. Stop (2) engages cam lever (3) linked to other cam levers (4) pushing all door sections simultaneously against stop strips.

CAM ACTION OVERdoors close tighter because door rolls easily down with ⅜" clearance and then is pushed forward by cam levers and held firmly and evenly against door stops. No dragging . . . no scraping.

CAM ACTION OVERdoors open easier, at a turn of the latch handle, because *extra* Cam Springs at bottom pull entire door ⅜" *back* from stops—overhead springs then lift friction-free door upward. Friction zone is reduced, allowing wood to swell in damp weather without sticking, binding, or wedging. Call your Barber-Colman distributor (under "Doors" in phone book) or write:

Barber-Colman Company

Dept. P72, Rockford, Illinois

93-page guide for architects

The new *Barcol OVERdoors Design and Specification Guide* is the most extensive manual on overhead doors and operators ever produced. Prepared with assistance of the American Institute of Architects. Contains extensive application photos, detail drawings, data, and informative copy for a wide range of applications of the entire Barcol OVERdoors line of overhead doors and electric and radio operation equipment, for industrial, commercial, and residential use. The book will be serviced with informational sheets by Barcol OVERdoors distributors throughout the country. *For architect's complimentary copy write Barber-Colman Company, Dept. P72, Rockford, Illinois.*

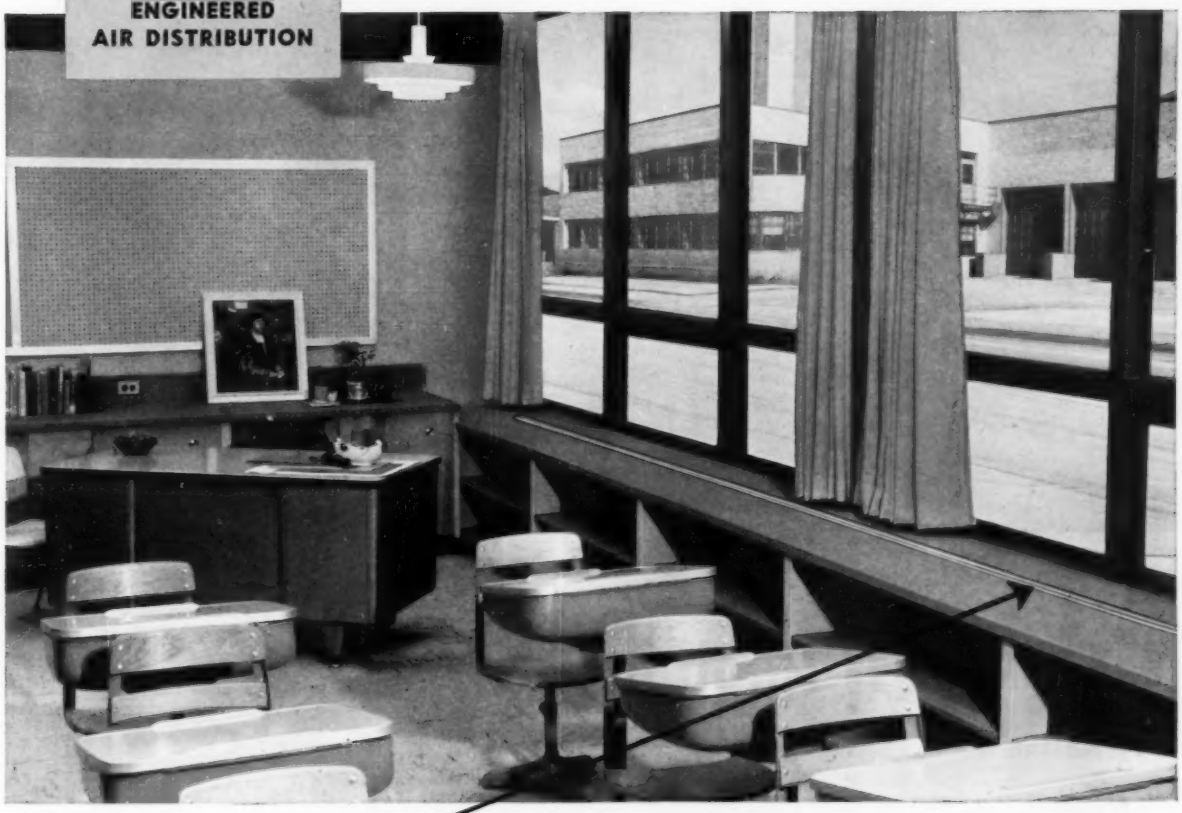
THE MARK OF QUALITY

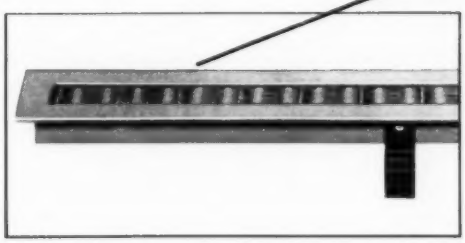
BARBER COLMAN

Uni-Flo

ENGINEERED AIR DISTRIBUTION

"Curtain" of warm air from continuous line diffuser stops cold glass-area drafts





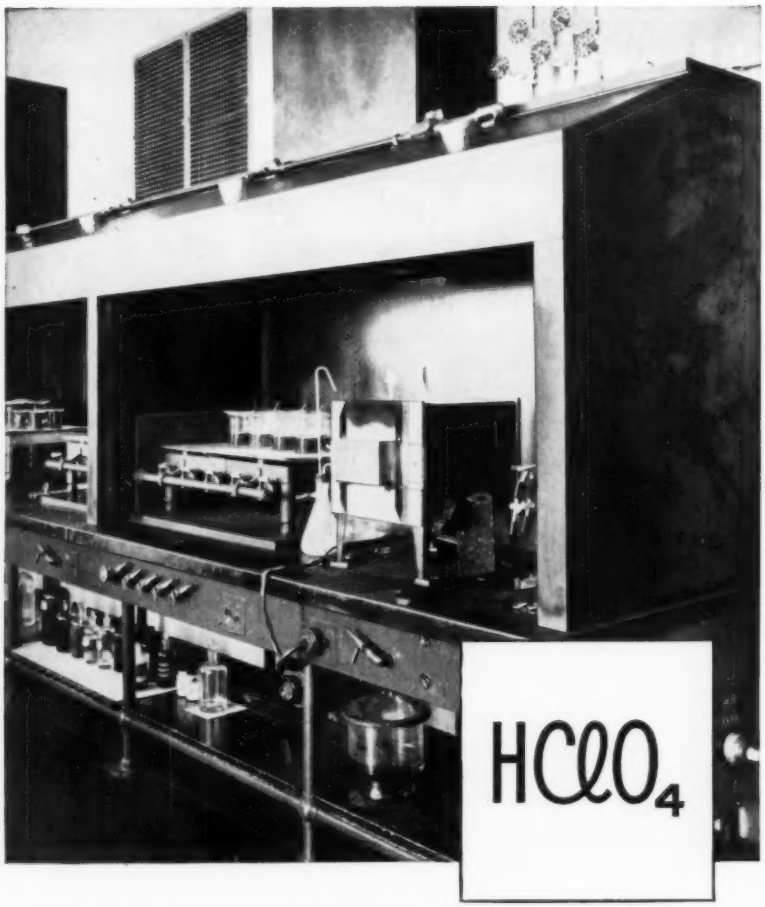
The new Uni-Flo Model ST Grille is available in increments of 48 inches for continuous line application. Used chiefly on plenum under windows, also applicable as a wall diffuser.

To prevent cold air currents that flow down large glass areas and spill into the room, Barber-Colman Company recommends the Uni-Flo Continuous Line Diffusing Grille. The grille is installed beneath the entire bank of windows, as in the modern schoolroom shown above. Warm air deflected against the chilled window in one continuous "curtain" warms the surface and neutralizes downdrafts. The Continuous Line Diffusing Grille can also be used to provide draft-free distribution of conditioned air for cooling and ventilating as well as heating. Field data is available, and performance of the grilles is guaranteed when they are applied according to published data. Get complete details from your nearby Field Office, or write us today! Only Barber-Colman Company combines skills in both Air Distribution and Automatic Controls for *undivided* responsibility.

BARBER-COLMAN COMPANY

Dept. N, 1104 Rock Street, Rockford, Illinois • Field Offices in principal cities

Air Distribution Products • Small Motors • Automatic Controls • Industrial Instruments • Aircraft Controls • Electrical Components • Overdoors and Operators • Molded Products • Metal Cutting Tools • Machine Tools • Textile Machinery



Let's talk "LOW ABSORBENCY"

For perchloric acid fume hoods.

Alberene Stone has a low absorbency factor of 0.15%. It's essentially nonstaining. Easily cleaned. And readily machined for tongue and groove, watertight construction.

Both of these features are absolutely essential for perchloric hoods — where thorough water flushing and removal is necessary to keep them deposit-free.

Further, with Alberene Stone — *the natural silicate stone whose surface goes all the way thru* — the all-silicate mineral components resist chemical attack.

Our engineers are ready to help you select or design perchloric hoods or other special-purpose hoods. Alberene Stone Corporation, 419 Fourth Avenue, New York 16, N. Y.

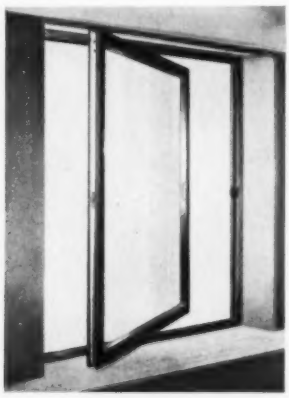
ALBERENE STONE

provides LOW ABSORBENCY protection

PRODUCT REPORTS

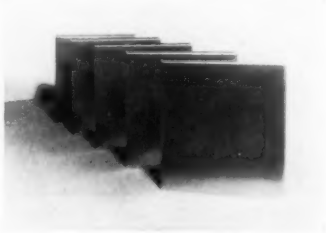
Translucent Fiberglass Panels

Filon panels, made of polyester resins and reinforced with fiberglass and nylon, come in 15 colors in flat sheets and a number of corrugations. An electronically controlled manufacturing process assures uniform thickness, strength and color. *Filon Plastics Corp., El Segundo, Calif.*



Reversible Aluminum Window

A new reversible monumental aluminum window features a 5/32 in. frame thickness for increased stability and trueness. The window has all frame members accurately mitred at the corners, reinforced, mechanically joined and heliarc welded. Weatherstripping is accomplished by two continuous lines of twin contact Neoprene strips along the perimeter of the vent, uninterrupted by locks or pivots, and vulcanized at the corners. Windows are finished by cleaning and etching the exposed surfaces, anodizing and applying a protective coat of clear methacrylate-type lacquer. *S. H. Pomeroy Co., Inc., 25 Bruckner Blvd., New York, N. Y.*



Solid Brass Tiles

Latest addition to the *Vikon* line of natural-color tiles is a solid brass tile available in three sizes of field and two of trim. The gold-colored, grain-polished surface is protected against tarnishing by a clear baked-on enamel. *Vikon Tile Corporation, Washington, N. J.*

(More Products on page 292)

The New York Coliseum, New York City. Owners: Triborough Bridge & Tunnel Authority. Architects: Leon & Lionel Levy. Mechanical Engineers: Guy B. Panero Engineers. Heating Contractors: Almirall & Co., Inc.

New $35,000,000 Coliseum where the best is a must!

depends on Sarco Heating Specialties

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The 9 acres of exhibition space accommodates four expositions at one time. Each day, on the average, over 25,000 people visit the shows.

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- United Aircraft Corporation
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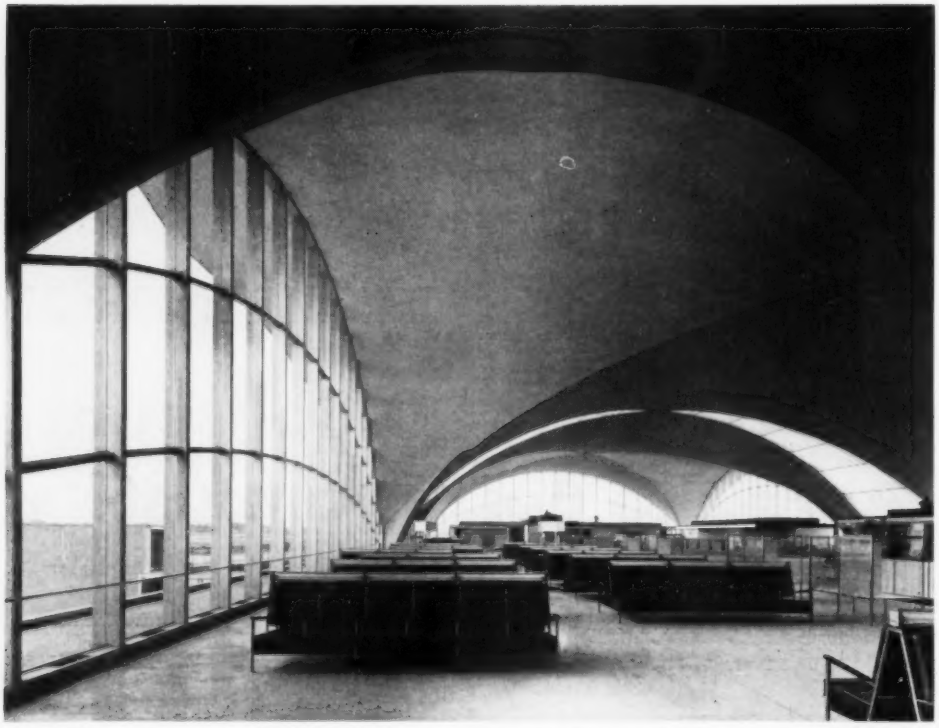
- Western Electric Company

2186-B

Boldly designed St. Louis Municipal Airport effectively embodies the advantages of SOLEX® HEAT-ABSORBING, GLARE-REDUCING GLASS

A new concept in terminal design, the St. Louis Municipal Airport basically consists of three huge copper-sheathed domes, thirty-two feet high, having no internal supports and providing an unobstructed main passenger floor 412 feet long and 120 feet wide. On all sides, broad expanses of glass give a panoramic view of sky, planes and the surrounding countryside. For the entire main floor, *Pittsburgh's* Solex heat-absorbing, glare-reducing glass was utilized. The soft, greenish tint of this glass makes interiors more comfortable for passengers and personnel alike. Architects: Hellmuth, Yamasaki & Leinweber, St. Louis, Missouri.



Here is a view of the unobstructed main passenger floor. The arched walls of glass on all sides of the terminal provide a panoramic view of the exterior. Solex reduces glare from landing strips.

Your Sweet's Architectural File contains detailed information on all Pittsburgh Plate Glass Company products . . . Sections 7a, 13e, 16d, 21.

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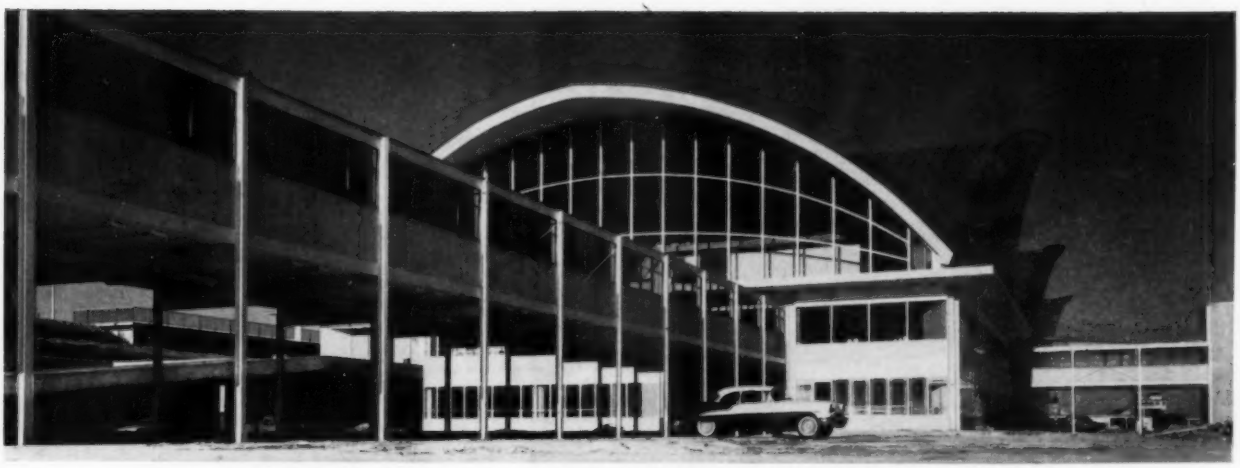

This exterior view shows the majestic lines of the terminal, as well as the expansive areas of Solex and Pennvernon® window glass—the latter installed where heat and glare are not a consideration.

the shortest distance between maintenance men and high-bay lights

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SPEED . . . SAFETY . . . SAVINGS. These are the inherent benefits of servicing luminaires at floor level. Thompson Hangers save dollars . . . not just cents . . . on maintenance budgets in all types of buildings where lights are mounted 16 feet or more above the floor.

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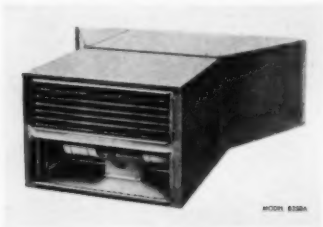
PRODUCT REPORTS

Vertical Aluminum Siding

"V" design non-warping, corrosion-resistant siding roll-formed from coiled aluminum sheet features easy handling and quick installation. Available in standard width, the siding is joined with waterproof lock joints. A baked enamel finish available in eight colors produces a long-lasting, maintenance-free surface. *Modern Materials Corp., Detroit, Mich.*



Packaged Air Conditioner

The *Vornado* central air conditioner, which can be installed with its own prefabricated duct system or use the heating ductwork for the distribution of cool air, is powered with twin compressors in two separate systems. A special arrangement keeps one compressor running all the time and cuts in the other during periods of peak temperatures, permitting excellent control of humidity. Completely automatic cooling is provided by thermostatic controls. The units are available in sizes of 2 or 3½ hp. *O. A. Sutton Corp., 1812 W. Second St., Wichita 1, Kansas.*

Portable Blueprint Machine

The *PELprinter "60"*, a blue print machine contained in a luggage-type unbreakable plastic carrying case, weighs only 5½ lb., and measures 18 in. long by 9½ in. wide by 4 in. deep. Operating on a dry vapor process, it is said to reproduce any type of drawing or written matter up to 8½- by 14-in. in less than 1½ minutes. It requires only a 110 volt outlet for operation and can be adapted for use in automobiles. *Product Engineering Laboratories Co., Inc., PELprinter Division, 314 Adams St., Newark 5, N. J.*

(More Products on page 296)

CONSTRUCTION IS

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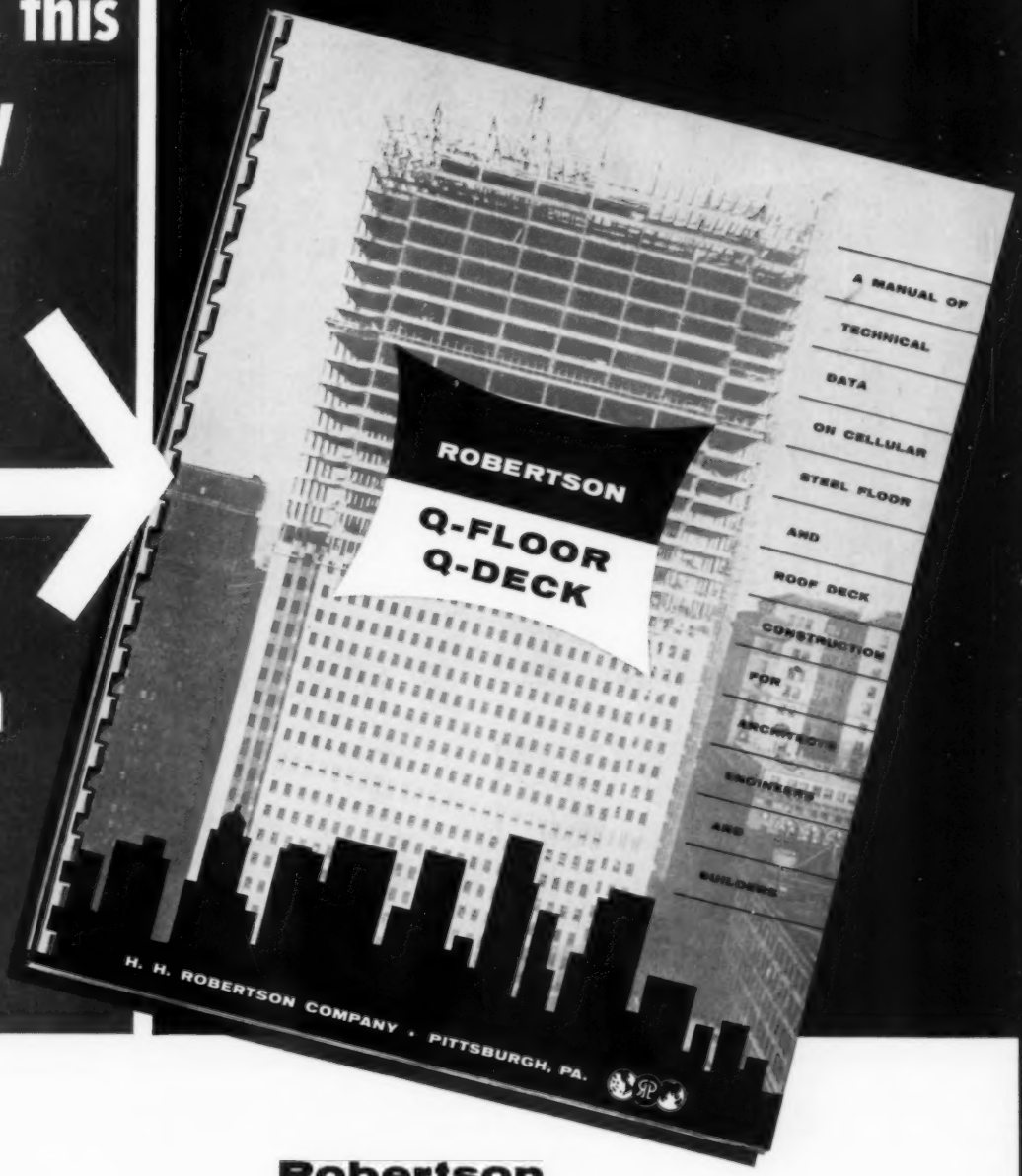
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A MANUAL OF TECHNICAL DATA ON CELLULAR STEEL FLOOR AND ROOF DECK CONSTRUCTION FOR ARCHITECTS ENGINEERS AND BUILDERS
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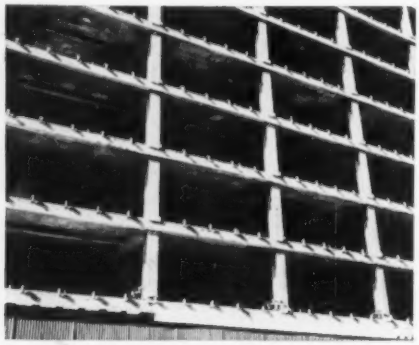
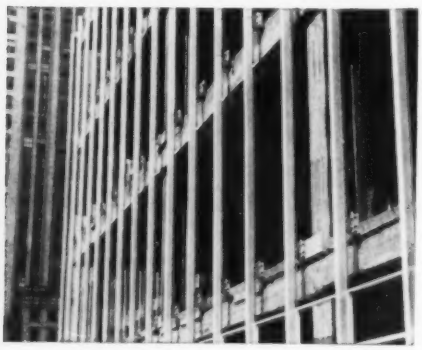


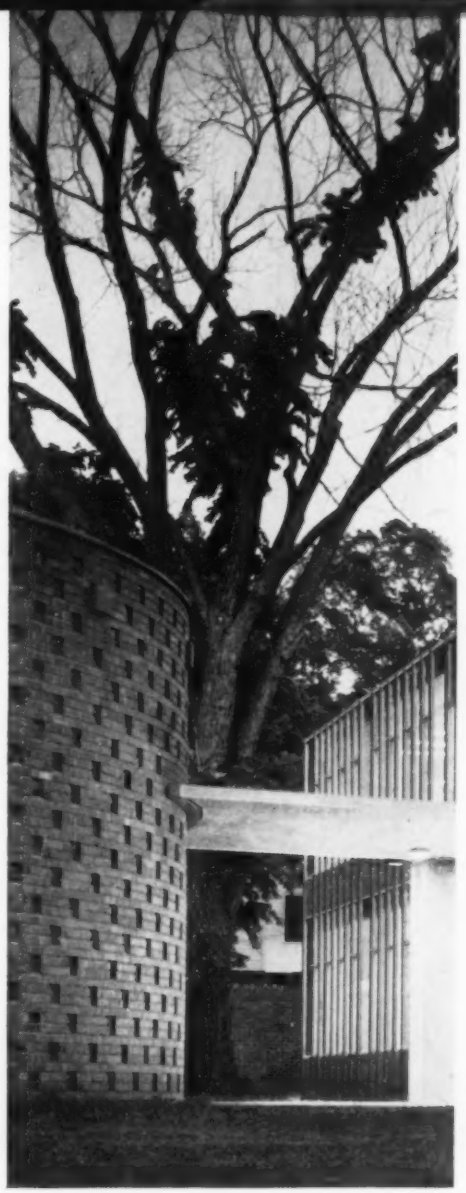
CONSTRUCTION IS FAST, SIMPLE:

First step in the erection of a Lupton Curtain Wall System is the bolting of galvanized steel clips to angle clips fastened to the floor slab or spandrel beam. Angle clips are accurately aligned and welded to the structural frame before concrete is poured.



Vertical mullions of extruded aluminum that act as the "organizing element" of the wall are bolted to the galvanized clips. Slots in the angle clips and galvanized clips allow extremely accurate positioning of the mullions, regardless of structural irregularities.

Here experienced Lupton crew men insert wall units between vertical mullions from *inside* the building, without scaffolding or special hoisting equipment. (They are designed to be installed from either inside *or* out.) Single Lupton contract provides single responsibility for manufacture and installation of curtain wall system.



. . . You Get LOW COST and BEAUTY with the

Freedom of design, speedy construction, minimum maintenance —these are the major advantages of this curtain wall system.

Here is a revolutionary wall system that offers both you and your client unparalleled advantages.

Consider, for instance, the variety in design you can achieve merely by varying the size and location of glazed and non-glazed areas—or the type of fenestration—or the material, color and texture of opaque areas.

Consider the saving in time the Lupton System makes possible. Both panels and windows are factory-assembled—go up in record time. Lupton-trained crews install Lupton-engineered and Lupton-assembled units under a single contract.

Consider the saving in money you pass on to

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Architects—Eero Saarinen & Associates, Bloomfield Hills, Mich. Contractor—Fane F. Vawter Co., Des Moines, Iowa

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your client. Lower first costs, lower maintenance costs. And curtain walls—one-third as thick as conventional masonry—provide a *plus*-dividend in additional square feet on *every* floor.

Get Lupton into your design picture *early*. You'll find complete specifications listed in Sweet's Architectural File 3a/FLy. To locate your closest representative, look for the name LUPTON in the Yellow Pages under Windows and Sash—Metal. Or write or wire.

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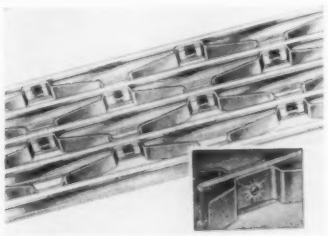
PRODUCT REPORTS

Fiber Duct for Warm Air

Designed for installation in concrete slab floors, *International Fibre Duct* consists of tightly wound layers of fiber, laminated with waterproof glue. The interior lining is aluminum foil and the outer layer of the fiber is impregnated with asphalt. The ends of each tube are paraffin dipped. Despite its light weight, the duct is said to be capable of supporting more than 200 lb. per lineal foot. Available in 4, 5, 6, 7, and 8 in. sizes, it fits all standard connections and can be cut to size with a hand saw. *International Oil Burner Co., Fibre Duct Division, 3800 Park Ave., St. Louis 10, Mo.*



Welded Steel Grating

Gold Nugget welded grating is an improved heavy duty open steel grating that utilizes welded construction for increased strength and economy. Secondary and primary load bars are joined with $\frac{3}{8}$ in. projection welds, enabling the grating to withstand greater shock loads and provide more strength with less weight. *Globe Company, 4000 S. Princeton Ave., Chicago 9, Illinois.*

Plank Style Vinyl Flooring

Plank Style Woodgrain Kenroyal is a vinyl flooring finished to simulate the rich grain and natural growth characteristics of hardwoods. Available in birch and mahogany finishes, the 4 in. by 36 in. planks are produced in standard gauge and $\frac{1}{8}$ in. thickness. Patterns and colors are permanent and impervious to wear. *Kentile, Inc., 58 Second Ave., Brooklyn 15, N. Y.*

(More Products on page 300)

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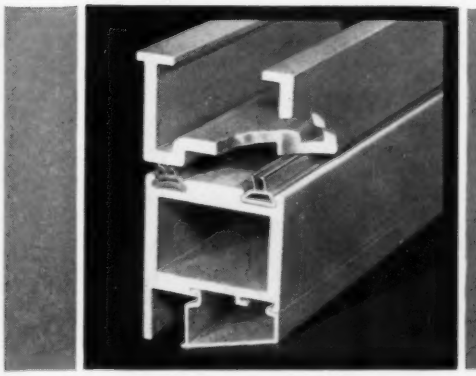
The window washer cleans both sides of this reversible window *from the inside*, eliminating need for outside hooks or hanging scaffolds and rails.

Yet, in addition to window cleaning convenience, Flour City's Reversible Window provides *complete weather seals*, with air and water infiltration practically zero.

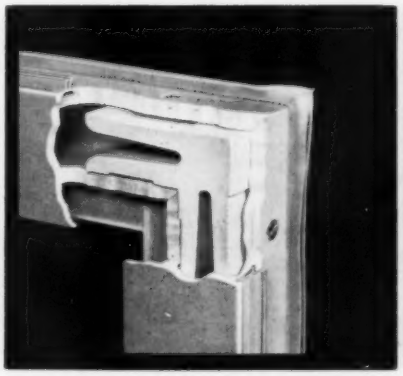
The Flour City window opens only by the window washer's key, to maintain controlled ventilation in air conditioned buildings, yet allows emergency ventilation should the need arise.

This window rotates a full 360° with a positive latch-lock in the 180° position. A simple flip of the latch and the window swings to its original position where it locks automatically.

For the *utmost in building design*, specify Flour City Reversible Windows . . . *custom built to your specifications.*



TWO continuous one-piece vinyl weatherstrips with double fins seal against air and water infiltration. Corners are mitered and heat sealed.



Aluminum corner blocks and sealant inserted under pneumatic pressure create rigid and leakproof corners.

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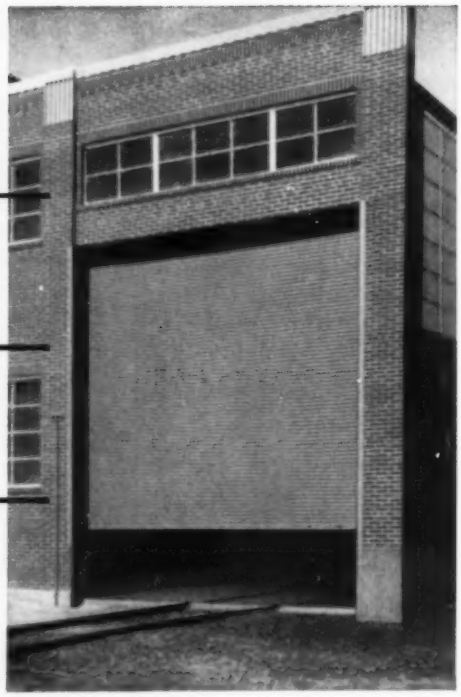

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You get *more* protection plus *more* efficiency in Kinnear Rolling Doors. Coiling above the doorway, they open out of the way! They never block light from close-by windows or fixtures. No floor, wall, or ceiling space is sacrificed. Hoists, conveyors, high-lift fork trucks and similar equipment can be used to maximum advantage.

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Kinnear Rolling Doors are engineered to fit any need, with manual-lift, crank, chain or electrical operation. Controls for motorized doors can be placed at any number of convenient spots. For long, low-cost service, insist on Kinnear Rolling Doors! *Write for catalog.*

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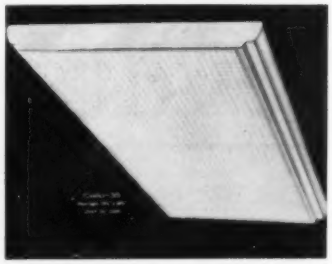

Surface-Mounted Fluorescent Fixture

Developed to meet the demand for shallow surface-mounted fixtures, the *Ceilo-35* in two and four light models is only 2¾ in. deep. The ballasts are mounted in the sides of the fixture rather than the middle to eliminate dark areas concealing the ballasts, while Parabolic reflectors direct all lights straight down, providing even distribution over the entire diffusing area. Installation, cleaning and relamping are simplified by a removable reflector section and hinged egg crate louver. *Gibson Mfg. Co., 1919 Piedmont Circle, N.E., Atlanta, Ga.*

Side Coiling Partition

Designed to provide separation of such large areas as gymnasiums, classrooms, cafeterias and multi-purpose rooms, *Cookson* wood side-coiling power or crank operated partitions are constructed for openings up to 22 ft. high and 130 ft. wide. Slats of selected vertical grain kiln dried 1 in. by 2 in. douglas fir, redwood or cedar are milled to a special modified tongue and groove "V" faced pattern. To prevent separation of slats and maintain positive alignment in coiling, upper and lower end lock assemblies are threaded on and riveted to continuous spring steel ribbons. The upper track, which is fully adjustable to compensate for any deflection of the upper mounting surface, may be mounted within or below ceiling or lintel, or to one side of lintel. Coil boxes may be installed inside or outside of wall spaces. *The Cookson Company, 1525 Cortland Ave., San Francisco, Calif.*

(More Products on page 304)

DURABLE MICARTA PANELS ADD DRAMA TO SMART BUILDING LOBBY BY INTRAMURAL

MICARTA® panels—alternating bright blue, black and grey—provide novel and dramatic wall treatment for this smart New York East Side residential building lobby, designed by Intramural, Inc.

The stripes of the panels are further emphasized by the hand-woven rug which reflects their colors.

This application is typical of the imaginative uses of versatile, durably beautiful MICARTA. This super-tough plastic surfacing never needs refinishing . . . wipes to a gleam with a damp cloth.

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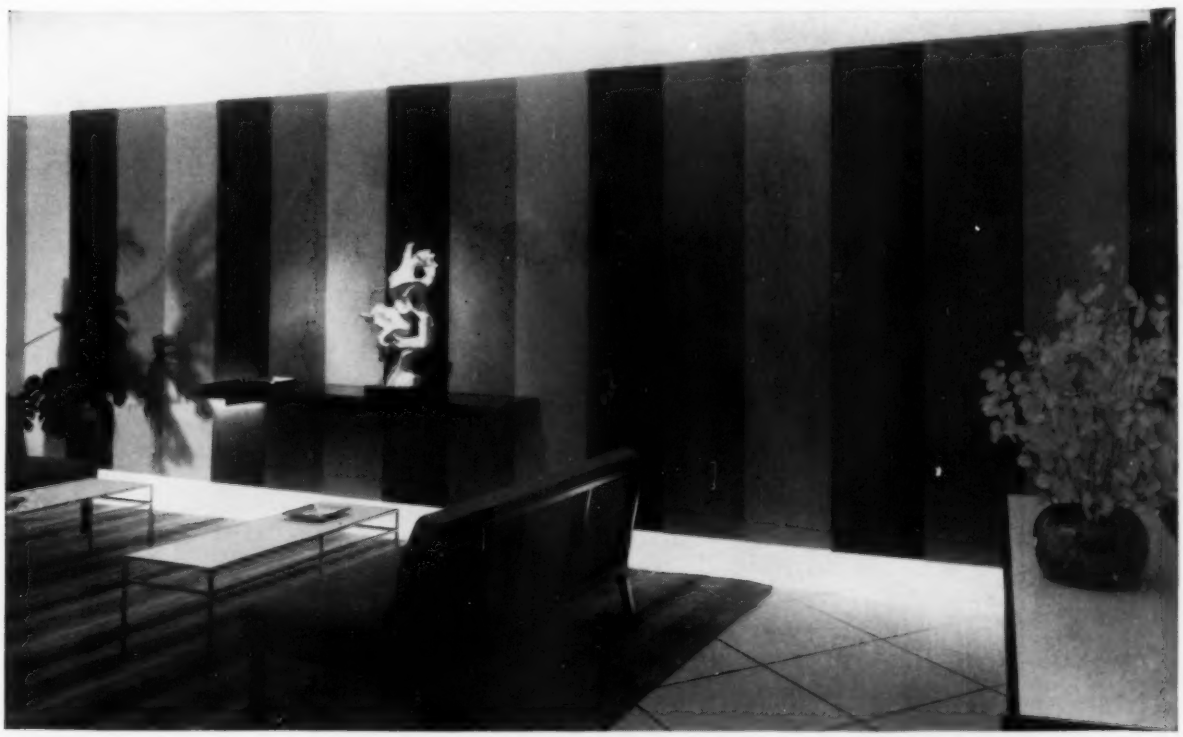
J-06634

Residential lobby installation by Intramural, Inc.,
56 East 58th Street, New York, N. Y.



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PRIOR PLANNING SERVICE is the name York gives to its program of working with your architect, consulting engineer, builder, and you – from the very first planning stage until your complete air conditioning system is installed and operating. One of the big reasons that York can offer such a valuable complete service is the variety and ingenuity of York equipment designs. York builds the system to fit the building.

New Unit design gives architects more freedom of room design. The new York "foot-high" air conditioning unit shown at the left is a good example of York's ability to meet difficult specifications. Only twelve inches high, this unique unit is designed to allow architects to specify full length windows. Offices using a YORK system with the new "foot-high" room units will seem – and be – more spacious, lighter, and yet just as comfortably cooled and ventilated as they are with other type York Units.

York equipment allows for special building designs and room arrangement. Out of sight, other York developments aid the architect and builder. Powerful York Turbomatic compressors, for example, are light enough to be mounted on high floors, without expensive structural changes; and they are smaller, too, leaving more rentable space.

York's PRIOR PLANNING SERVICE depends upon the superior engineering ability of the carefully trained York sales engineer. This York sales engineer can be one of your most valuable aides when planning your air conditioning. Call him early in your planning or write York Corporation, subsidiary of Borg-Warner Corporation, York, Pennsylvania.

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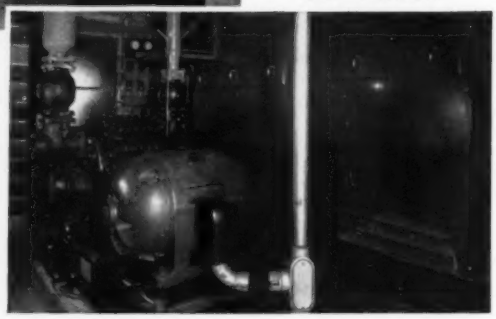
HEADQUARTERS
FOR MECHANICAL COOLING
SINCE 1885

YORK
CORPORATION
SUBSIDIARY OF BORG-WARNER CORPORATION

The attractive modern decor of this restful lounge is in keeping with today's trend towards comfortable homes for the old folks.

The Vilter 8-cylinder Freon VMC compressor used in this installation. Reliable performance has won Vilter wide acceptance in commercial air conditioning of all kinds.



Jewish Old People's Home

KANSAS CITY, MISSOURI

...decides on Vilter

Q. How can one provide that extra something for our older folks?

A. Install reliable Vilter® AIR CONDITIONING to insure maximum comfort—equipment which

costs less to own*

In this Jewish Old People's Home at Kansas City, Missouri, Vilter air conditioning plays an important role in the drama of life . . . providing modern comfort and pleasant leisure for older people during their golden years. Here, as elsewhere, Vilter prides itself in a job well-engineered, carefully installed, utilizing air conditioning equipment noted for economical operation and long life . . . important considerations in community service organizations operating homes on fixed incomes.

In this Home, Vilter equipment includes a Freon VMC compressor with a step down control to reduce refrigeration capacity by 25%, 50%, or 75% of full rated load, and which makes for greater economy of operation. Vilter VMC's are known for their smooth, dependable operation and efficient performance.

It will be good business for you to see your nearest Vilter engineer for a careful evaluation of your air conditioning and refrigeration needs for all types of offices, clubs, schools, and commercial buildings.

Sold and installed by O'Dower Engineering Company, Kansas City, Missouri

* Savings in low first cost are not the complete answer when considering the installation of refrigeration equipment. But savings in terms of years of extra service, reliable performance and minimum maintenance—that's where Vilter excels in low-cost ownership.

Vilter®

QUALITY CRAFTSMANSHIP that lasts...

ENGINEERING DESIGN that guarantees performance

REFRIGERATION and AIR CONDITIONING

THE VILTER MANUFACTURING COMPANY, Milwaukee 7, Wisconsin

Air Units • Ammonia & Freon Compressors • Booster Compressors • Baudelot Coolers • Water & Brine Coolers • Blast Freezers • Evaporative & Shell & Tube Condensers • Pipe Coils • Valves & Fittings • Pakice & Polarflake Ice Machines

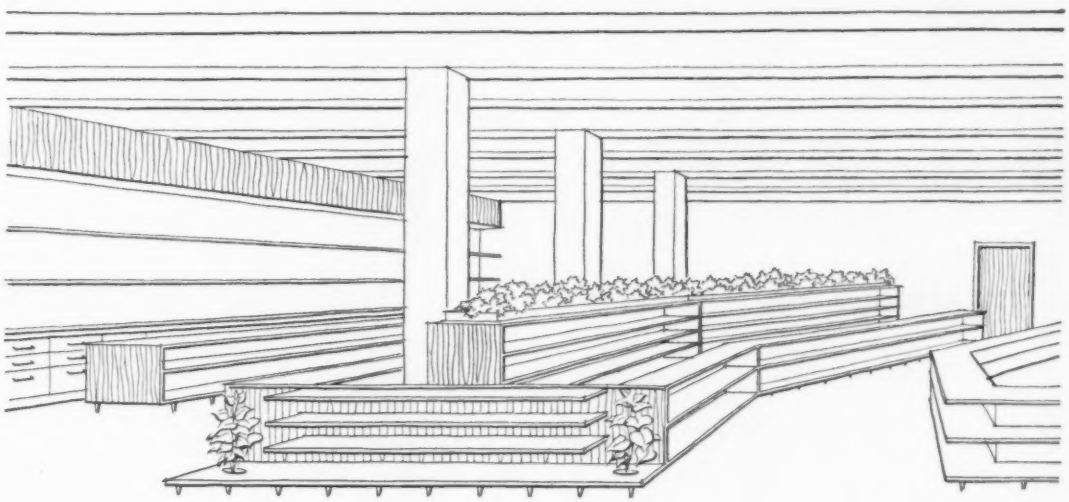
PRODUCT REPORTS

Double Grounding Outlet

Designed to comply with the revision of the National Electric Code which requires all outlets that are to be used by persons in contact with the ground or grounded objects to be of the grounding type, a new *General Electric* outlet accepts standard grounding caps as well as standard parallel caps and polarized parallel caps. A captive pressure cover plate hinged at three points to the wall plate of the outlet is said to keep out rain and moisture yet permit easy access to the double outlet. Both wall plate and cover are made of etched aluminum, and rubber gaskets above and below the wall plate seal out the weather. A lever holds the cover in position when the outlets are not in use. *General Electric Co., 95 Hathaway St., Providence 7, R. I.*

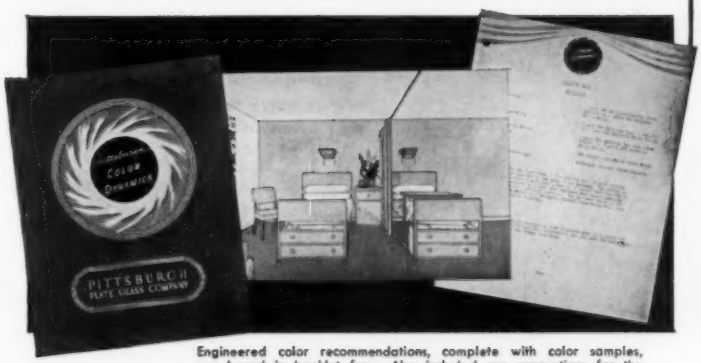
Modular Curtain Wall System

Ten prefabricated components are said to permit 2,852 different design variations in the *Unit Wall* modular curtain wall system. Insulated panels, operable sash, fixed sash and doors are combined with satin-finish aluminum mullions and frames in an interlocking split-mullion design that provides for horizontal expansion and contraction while simplifying erection. The insulated panels come in several colors in porcelain enamel as well as an aluminated finish. All are of laminated sandwich-type construction with an impregnated honeycomb core wedged between layers of tempered cardboard, and a textured aluminum outer surface. The wall units are available in 9, 10, 11 and 12 ft. heights, and widths of 3 ft-4 in., 4 ft., or 5 ft. Those with factory-installed doors also come in a 6 ft-4 in. width. *Robert M. Baker, Kawneer Company, Niles, Mich.*



You Can Get a Complete

Engineered Color Study for Your Plans–FREE!



Engineered color recommendations, complete with color samples, are bound in booklet form. Also included are suggestions for the correct types of coatings for every kind of material and construction.

YOU can often make your plans more acceptable to your clients by including a detailed color program.

● **Almost everyone** who owns or operates an industrial, commercial or service enterprise recognizes the importance of the influence of color upon people. That's why such a detailed program of color recommendations often can be very helpful.

● **Why not let us submit** *engineered* color recommendations to go with your plans? These recommendations are based upon the principles of Pittsburgh's system of COLOR DYNAMICS®. This method of painting has successfully demonstrated its ability to improve productive efficiency, morale and well-being in many fields.

● **We'll be glad** to make such a detailed study for you without cost or obligation. Simply call your nearest Pittsburgh Plate Glass Company branch and arrange to have one of our color consultants see you at your convenience. Or mail coupon at right.

For Additional information on COLOR DYNAMICS see Sweet's Architectural File, Section 14/PL

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Gentlemen:

☐ Please have your representative provide us with further information about Pittsburgh's free COLOR DYNAMICS engineering service for architects.

☐ Please send free copy of your booklet on COLOR DYNAMICS for ____industry; ____hospitals; ____schools; ____commercial buildings.

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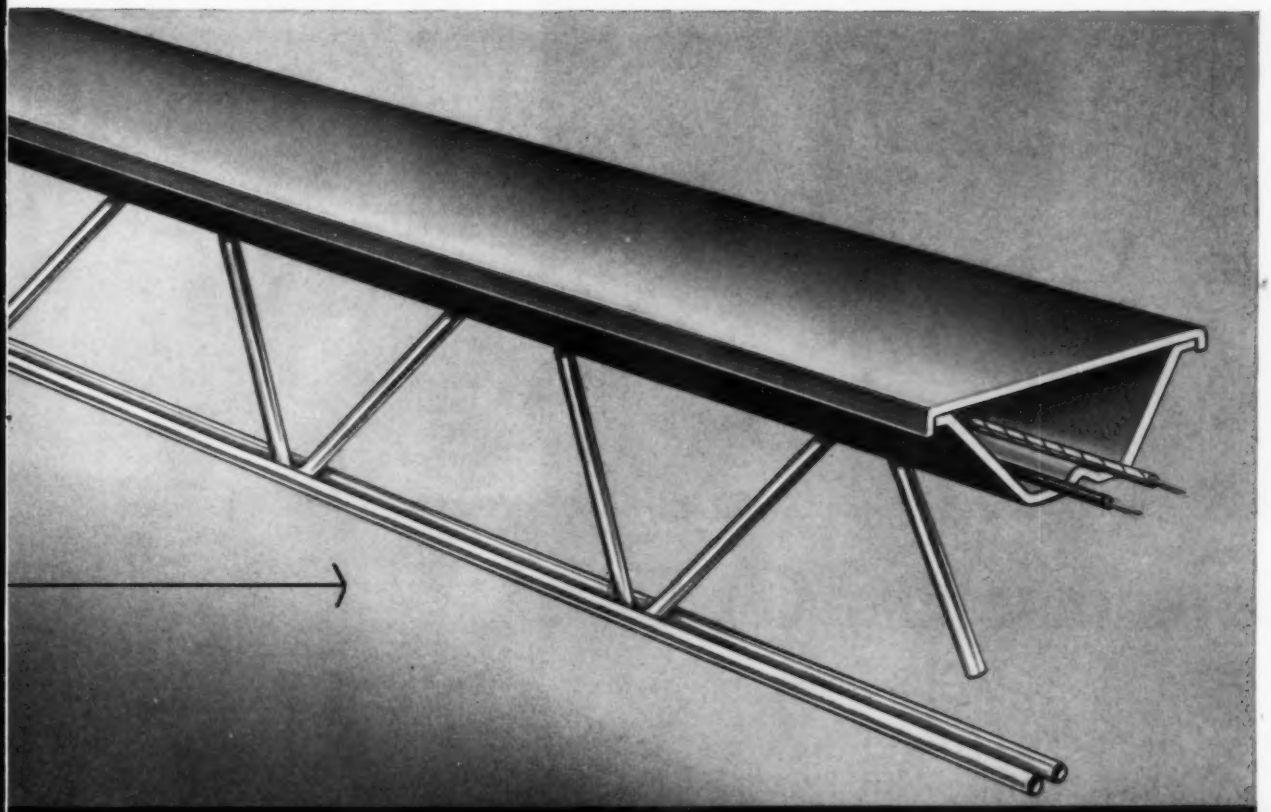
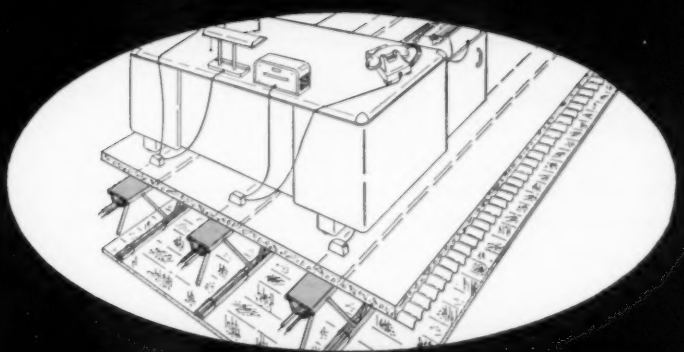
SOMETHING NEW
UNDER THE FLOOR...
ELECTRICAL FLEXIBILITY...
WITHIN A BUILDING BUDGET
Ceco E/C Joists are designed for the dual function of (a) supporting the floor, (b) acting as electrical distribution ducts for underfloor wiring. They provide the most economical means of installing underfloor electrification. No extra concrete or reinforcement is required to assure a structurally sound floor . . . yet they also serve as concealed raceways for electrical wiring throughout the building. Patents pending.

New exclusive CECO Electro-Channel Steel Joist Construction for Underfloor Electrical Systems

Saves Time . . . Saves Weight . . . Costs Less, Too

Building planners recognize the basic fact that in this "electrical age" buildings must be wired for the *future*. To provide only for today's requirements is not enough. Use of electrically-operated business machines and communication equipment is constantly increasing. But the question is: How to provide for future electrical flexibility at *lowest cost?* Ceco meets the issue with its new Electro-Channel Open Web Steel Joists. Now, for the first time, steel joist construction can provide an integral underfloor raceway system allowing complete electrical flexibility. These joists have the same structural properties as regular Ceco Shortspan Open-Web Steel Joists. But in the Electro-Channel Joists the conventional top chord is replaced by a specially shaped hollow section which serves both as the top chord of the joist and as an underfloor distribution duct for electrical circuits. For complete information on Ceco Electro-Channel Steel Joist Construction, consult your nearest Ceco office. *Approved by the Underwriters' Laboratories for use with electrical header ducts and accessories as manufactured by General Electric, National Electric Products Corporation and Walker Bros.*





Wiring can be brought up through the floor at any point along the joists.

CECO STEEL

"CREATIVE ENGINEERING" BY CECO—with a variety of building methods and products to meet any design problem. See CECO in the early planning stage for Steel or Concrete Joist Floor Systems—the most economical Underfloor Electrification—the widest line of Steel and Aluminum Windows and Curtainwalls. All will help you accomplish your design objectives. And CECO products and services assure quality construction on a tight budget.

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In construction products Ceco Engineering makes the big difference
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at the

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(formerly the International Heating & Ventilating Exposition)

INTERNATIONAL AMPHITHEATRE—CHICAGO

FEBRUARY 25—MARCH 1

Under the auspices of the American Society of Heating and Air-Conditioning Engineers, and in conjunction with their 63rd annual meeting.

Much has happened in the weather-making industry during the two years since the last exposition — new advanced-design equipment that will help you cut installation and operating costs. Two years is a long time, 17,520 hours to be exact.

Catch up with progress in only 44 hours at Chicago and profit by timely information. No other exposition, the world's largest, can offer you *so much* that's NEW in the heating, ventilating and air conditioning field — from more than 450 manufacturers — *for so little.*

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—write for your advance registration to:

13th INTERNATIONAL HEATING & AIR-CONDITIONING EXPOSITION

480 Lexington Avenue, New York 17, N.Y.

3556

Management: International Exposition Co.

OFFICE LITERATURE

(Continued from page 244)

Furnace Styling

Styling changes, new colors and improvements in warm air furnaces are featured in a new catalog, WA 356, which also includes complete engineering information. 8 pp. *Firewel Co., Inc., Dept. G, 3685 Broadway, Buffalo, New York.*

A Throat Damper For Any Fireplace

(AIA 14-E) Describes several types of dampers, along with such construction items as fireplace opening supports, clean-out doors, ash dumps, lintel bars, fireplace forms and accessories. Suggestions on fireplace construction, floor plan requirements and mason's instructions are also presented. 12 pp. *Bennett-Ireland, Inc., 20 Exchange St., Norwich, N. Y.*

Gravity Ventilators (AIA 12K)

Features *Leslie* line of gravity ventilators and ventilator specialties with illustrations, descriptions, and size and dimension data. 8 pp. *Leslie Welding Co., 2943 W. Carroll Ave., Chicago 12, Ill.*

Fiber Glass Structural Panel

(AIA 26-A-9) Color brochure describes and illustrates the wide variety of patterns and colors available in *Palnel* translucent fiber glass structural panels. 4 pp. *Kemlite Corp., Dept. P-1, 101 N. Republic Ave., Joliet, Ill.*

Sunbeam Sixteen-Eighty

Catalog presents technical and general data on *Sunbeam Sixteen-Eighty* luminaire featuring high efficiency, low brightness illumination. Illustrated, 8 pp. *Sunbeam Lighting Co., 777 East 14th Pl., Los Angeles 21, Calif.**

Wood Frames and Windows

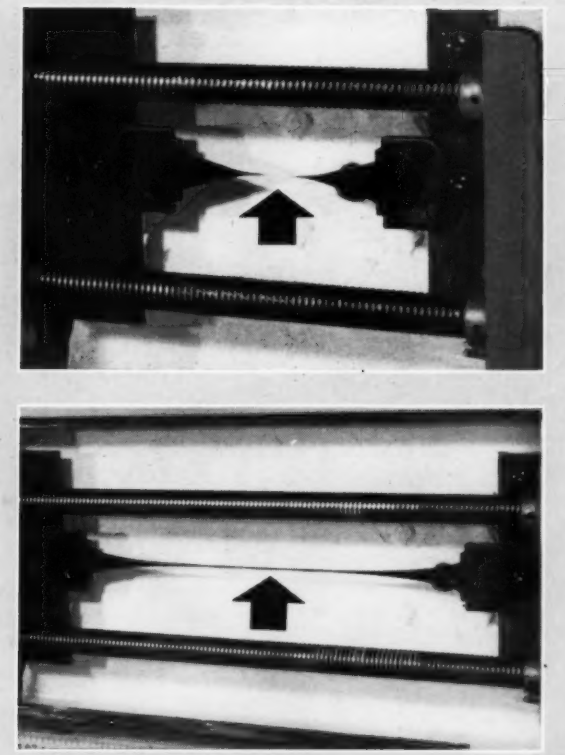
. . . *in Modern Schools.* Brochure 10 contains photographs and details of 15 woodwork installations in schools in all sections of the country and Canada. 20 pp. *Architectural Woodwork Institute, 332 So. Michigan Ave., Chicago 4, Ill.*

Porcelain Enamel Sketch Book

(AIA 17-A) No. IV describes U-16 and U-20 designs for architectural porcelain enamel panels, including specifications, details and information on pan type panels for veneer over masonry and other wall surfaces. 8 pp. *Erie Enameling Co., Erie, Pa.**

(More Literature on page 312)

Johns-Manville *Aquadam*® Built-Up Roofs—proved superior by actual tests!



Here's conclusive proof of Aquadam's greater resistance to cracking!

TOP—A typical asphalt is shown at average breaking point of 12 CM.

BOTTOM—This is Aquadam at a 25 CM stretch—100% beyond average—won't break even when stretched to 110 CM.

AQUADAM BUILT-UP ROOFS owe their proven superiority to Aquadam, the special bituminous cementing agent, used in the application of the roofing felts. Aquadam is an exclusive Johns-Manville development.

When applied, Aquadam's excellent adhesive properties create a permanent bond to the felts and to the slag or gravel surfacing. Aquadam's rigidly controlled quality and excellent flow properties assure easier mopping, thorough coverage, longer roof life.

Johns-Manville Aquadam Roofs are specially designed to provide maximum built-up roof service for deck inclines from dead level to ½" per foot. Available in both a smooth-surfaced and a slag or gravel specification.

Your local Approved J-M Contractor is listed in the Yellow Pages of your telephone directory. He will gladly give you complete information about J-M Aquadam Built-Up Roofs. Or, write Johns-Manville, Box 158, New York 16, N. Y. In Canada: 565 Lakeshore Rd. E., Port Credit, Ont.

JOHNS-MANVILLE JM PRODUCTS

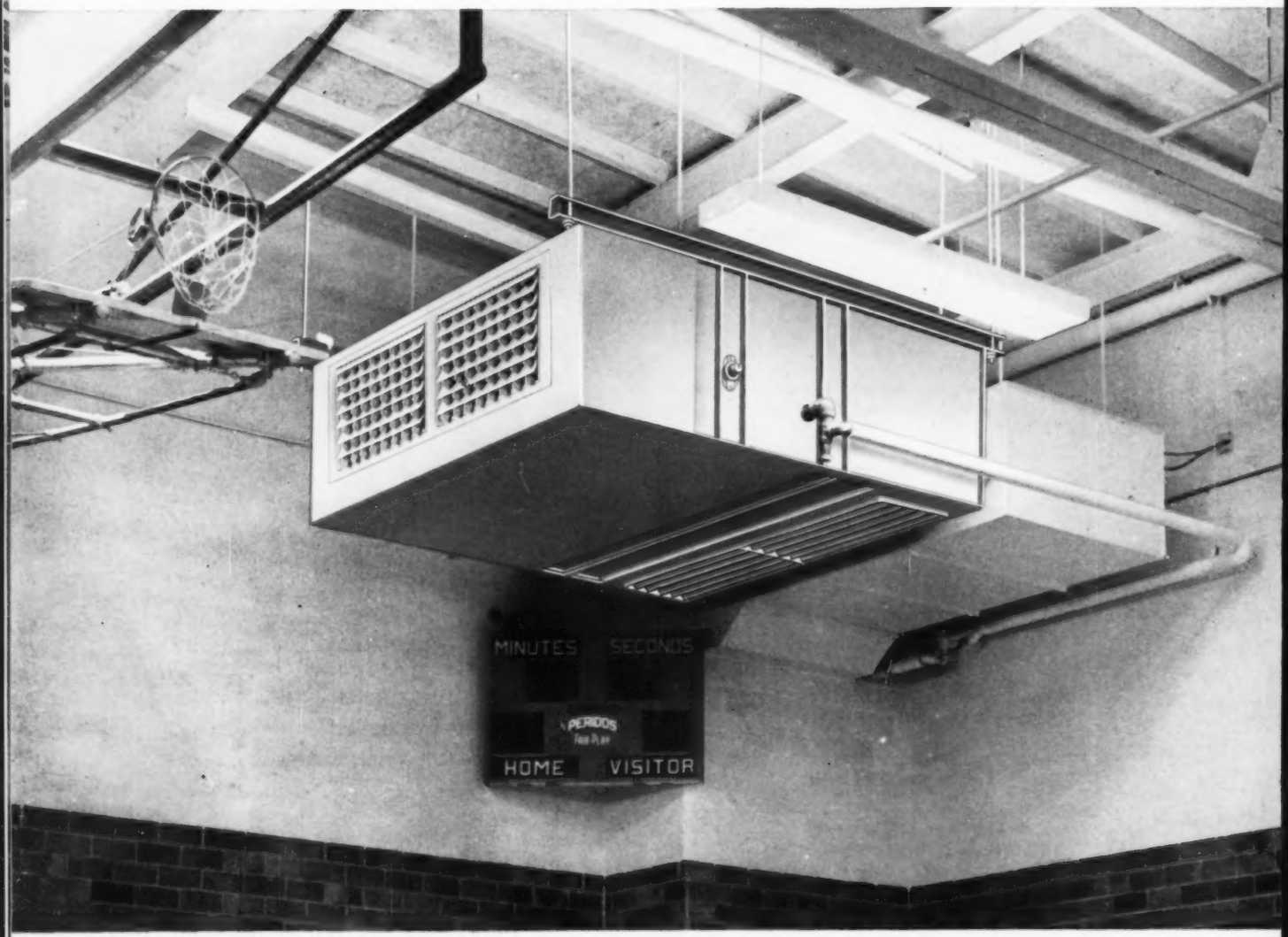
CHECK THESE 7 IMPORTANT AQUADAM ADVANTAGES:

- ✓ Outstanding resistance to cracking
- ✓ Improved self-healing properties
- ✓ Superior weather resistance
- ✓ Greater kettle stability
- ✓ Exceptional adhesion, stronger bond
- ✓ Greater resistance to water
- ✓ Excellent uniformity

Johns-Manville

New models...new sizes...new designs

1957 lines the broadest matched equipment



Induction UniTrane units

Since its introduction in 1956, the TRANE induction unit has been installed in many leading buildings. Housed in an attractive cabinet so sturdy it can support a man's weight, the unit is trim, compact and efficient. Units may be ordered with or without filters for installations where it is desired to filter *all* the air—not just the primary air. Individually controlled for personal climate preference or changing needs. Available in cabinet or concealed models—for installation on wall, ceiling or floor.

in Trane history: built to work together

See this TRANE equipment at the ASHAE exposition:

- Torrivent heating-ventilating units (shown at left)
- Unit Ventilators in new shelving models
- UniTrane Induced Air units (shown at left below)
- Self-Contained Air Conditioners
- New design in Multi-Zone Climate Changer
- New design in TRANE Steam Specialties

Also: Reciprocating Compressors . . . famous TRANE CenTraVac . . . regular Climate Changer . . . TRANE Radiation . . . Unit Heaters

See all the above at the TRANE *booth, ASHAE Exposition—International Amphitheatre Chicago—February 25 to March 1*

Now—for 1957—TRANE brings you the industry's most complete line of heating, ventilating and air conditioning equipment! New equipment—improved equipment—in even wider ranges of sizes and capacities has been added to the line already famous for its completeness and versatility. And, remember: TRANE offers you matched equipment in all four related fields: air conditioning . . . heating . . . ventilating . . . heat transfer!

TRANE products are designed and built for use together. That means you get greater "system" dependability . . . pinpoints responsibility for *all* the equipment on the job. See the TRANE equipment for 1957 at the ASHAE Exposition in Chicago—February 25 to March 1. If you aren't planning on attending this year, call your nearby TRANE Sales Office for complete information—or write TRANE, La Crosse, Wisconsin.

Torrivent heating—ventilating units

Here's a whisper-quiet centrifugal unit that both heats and ventilates! It's the newly designed TRANE Torrivent—built to furnish large capacity heating and ventilating for all types of buildings. Operation is *quiet*—thanks to new, high efficiency TRANE Fans. Use the Torrivent wherever you need a positive, dependable supply of filtered, humidified and tempered air—fresh or recirculated. Available in 1, 2 or 3 fan models in capacities from 1,250 to 33,000 cfm. Floor, ceiling or wall hung types.

For any air condition, turn to

TRANE

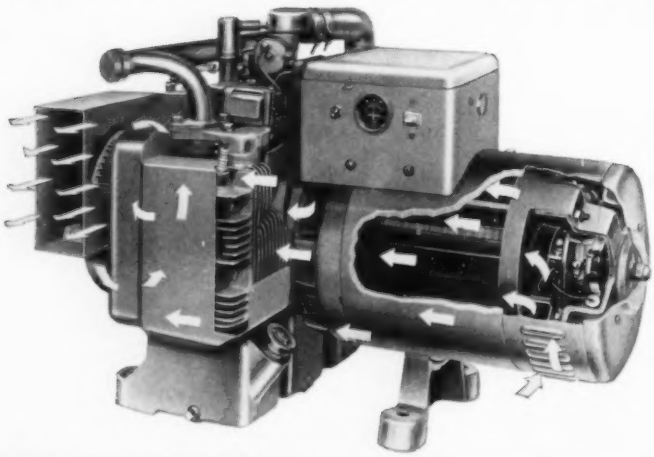
MANUFACTURING ENGINEERS OF AIR CONDITIONING, HEATING, VENTILATING AND HEAT TRANSFER EQUIPMENT

THE TRANE COMPANY, LA CROSSE, WIS. • EASTERN MFG. DIV., SCRANTON, PA.
TRANE COMPANY OF CANADA, LTD., TORONTO • 90 U.S. AND 19 CANADIAN OFFICES

This is the TRANE "House of Weather Magic"

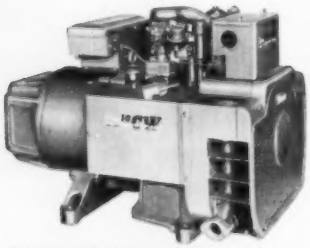
—the million-dollar laboratory where TRANE equipment is designed and tested. Built in 1953, the laboratory is now being made still larger, with even more facilities for the development of improved equipment. In this laboratory, terrific extremes of weather are produced—from 65° below to 2500° above! Gales up to 60 miles per hour are created to test fans and other equipment. Whatever the research problem, TRANE seeks sound engineering solutions, based on *facts*.

HOW Vacu-Flo AIR-COOLING SIMPLIFIES INSTALLATIONS OF ONAN ELECTRIC PLANTS



VENTILATES INSTALLATION AREA

Vacu-Flo cooling takes air from the room, through the electric plant, and expels it outside through a single duct. Eliminates fumes; keeps room filled with fresh air.



DUCT CARRIES EXHAUST LINE

On the Onan CW series of electric plants (7½ and 10KW), the exhaust pipe is carried through vent duct to the outside making only a single opening necessary.

Heated air expelled outside through single vent. Units can be enclosed or "buried"

Air-cooled Onan Electric Plants can now be installed in small, enclosed compartments; in isolated or underground rooms; or "buried" within a vehicle, far from the outside air. Previously impossible or difficult installations are now easy and practical with Onan Vacu-Flo cooling.

This exclusive system is a factory-equipped item, optional on any Onan air-cooled electric plant. A quiet-running, centrifugal blower in a specially-designed housing PULLS cooling air through the generator and over the engine . . . then EXPELS heated air through a duct to the outside.

The space required in a "buried" installation need be only a little larger than what the unit itself requires. Air-intake and vent openings plus an exhaust line are all that are necessary.

On vehicles such as trailers, display vans, fire and rescue trucks, and concession wagons, Vacu-Flo cooling makes it possible to mount the Onan plant anywhere in the body where space is available. On pleasure and work boats, Vacu-Flo cooling makes below-deck installations of air-cooled electric plants practical . . . cooling efficiently and quickly eliminating fumes from the area.

Onan Electric Plants with Vacu-Flo cooling operate more quietly than blower-cooled models . . . an important added advantage in many installations.

Write for Special Vacu-Flo folder.

Onan ELECTRIC PLANTS

D. W. ONAN & SONS INC.

2661 University Avenue Southeast, Minneapolis 14, Minnesota

OFFICE LITERATURE

Industrial and School Lighting

New condensed catalog covers RLM fixtures, vapor proofs, flood lights, and fluorescent fixtures. *Multi Electric Mfg. Co., 4219 W. Lake St., Chicago 24, Ill.**

Colorizer Paint Color Pack

Includes 366 color samples 4½ by 7¾ in. in size. Printed identification on back permits liberal clipping of swatches to go with specifications. *Colorizer Associates, 345 North Western Ave., Chicago 12, Ill.*

Airfoil Centrifugal Fans

Bulletin A-103 announces a new design in backward curve airfoil centrifugal fans which utilizes a hollow sectioned aerodynamic shaped airfoil blade to reduce noise, eliminate eddy currents and increase efficiency. 64 pp. *E. R. Anderson, Sales Mgr., Chicago Blower Corp., 9863 Pacific Ave., Franklin Park, Ill.*

Soda Fountains and Equipment

Describes complete line of stainless steel food service equipment and soda fountains, with prices (List #9) for standard units and many alternate sizes. 16 pp. *S & R Soda Fountain Mfg. Co., 550 Trinity Ave., New York 55, N. Y.*

Tempo Cabinet Hardware

Announces new line of two-color cabinet hardware, featuring combination of black with bronze, copper and brass in two styles and sizes of door pulls. 4 pp. *Washington Steel Products, Inc., Tacoma 2, Wash.**

Hand Painted Silk Wallpaper

Full-color folder shows all patterns and complete particulars for hand painted mural panels and matching silk background paper. *Tropi-Cal, 1319 W. Pico Blvd., Los Angeles 15, Calif.*

Early American Chandeliers

Features hand wrought reproductions of early American chandeliers for restorations, homes, inns and churches. $1. *James R. Marsh, Fiddlers' Forge, Pittstown, N. J.*

Fiberglass Gutters and Downspouts

Illustrates *Permadrain* line of fiberglass reinforced polyester rain carrying equipment, including troughs, down spouts, miters and elbows. 4 pp. *Permanent Products, Inc., 102 W. Fairfield, St. Paul, Minn.*

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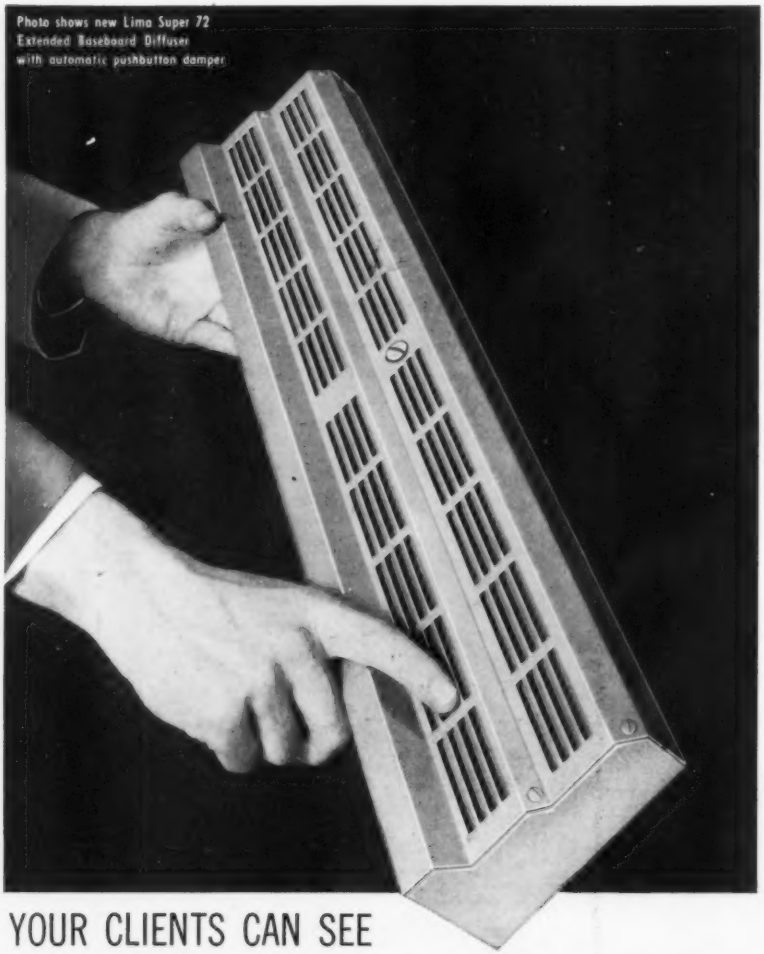

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Lima Built-in Quality

The diffuser you specify is the showpiece of the heating and cooling system—installed where it is seen every day.

There's no question about the permanent beauty . . . heavy gauge metal . . . and quality construction of Lima diffusers. Your clients can see these built-in extras that cost no more.

And there's no question about the outstanding performance. Lima diffusers have built-in design features for proper throw and spread in heating and cooling. The extra quality construction eliminates rattling or whistling at higher air velocities.

For details on the complete Lima line of quality diffusers, registers and grilles, see Sweet's Architectural File 29f/Li or write for latest catalog.

Lima REGISTER COMPANY • LIMA, OHIO

sold exclusively through heating wholesalers and manufacturers

THE RECORD REPORTS

ON THE CALENDAR

February

1–2 First National Home Improvement Congress, sponsored by "Operation Home Improvement" with the cooperation of the Housing and Home Finance Agency, the Chamber of Commerce of the United States and the building and lending industries — El Conquistador Hotel, Tucson, Ariz.

5–7 The 12th Annual Technical and Management Conference of the Reinforced Plastics Division of the Plastics Industry, Inc. — Edgewater Beach Hotel, Chicago

15–20 Annual convention, American Association of School Administrators — Atlantic City

18–21 Sixth Annual Industrial Ventilation Conference — Kellogg Center, Michigan State University, East Lansing, Mich.

18–22 Jackson convention, American Society of Civil Engineers — Hotel Heidelberg, Jackson, Miss.

21–23 Annual convention, Building Stone Institute — Hotel Roosevelt, New Orleans

23 One hundredth anniversary of the founding of the American Institute of Architects

25–28 The 37th annual national concrete masonry convention and 10th biennial concrete industries exposition — Kiel Auditorium, St. Louis

25–28 The 53rd annual convention, American Concrete Institute — Statler-Hilton Hotel, Dallas

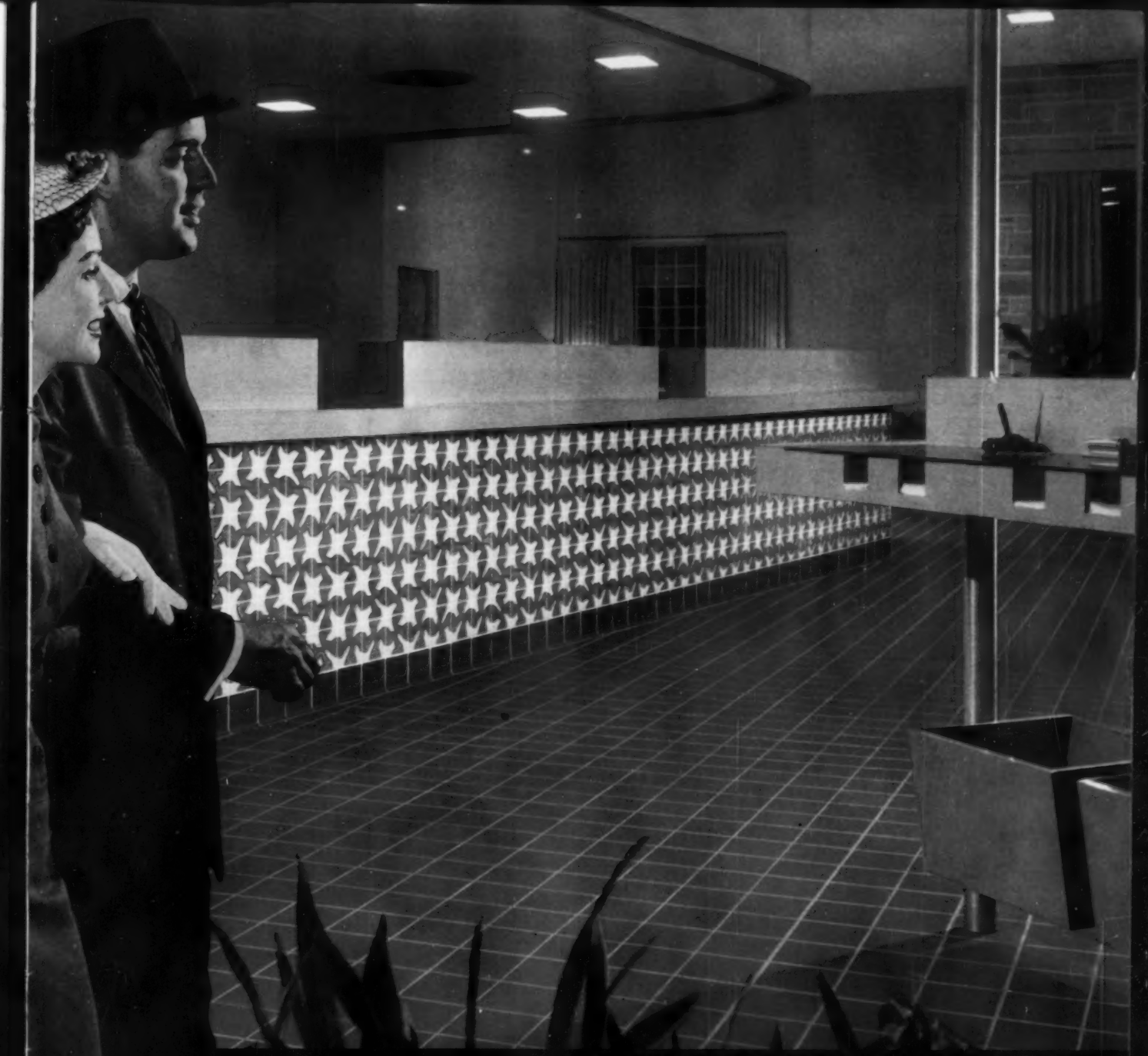
25ff Annual meeting, American Society of Heating and Air-Conditioning Engineers; until March 1 — Chicago

25ff International Heating & Air-Conditioning Exposition, sponsored (biennially) by the American Society of Heating and Air-Conditioning Engineers; until March 1 — International Amphitheater, Chicago

26–28 Annual national joint conference on church architecture sponsored by the Church Architectural Guild of America and the Bureau of Church Building of the National Council of the Churches of Christ in the U. S. A. — Chase Hotel, St. Louis

27ff Buildings for Business and Government, New Patrons for Mod-

(Continued on page 318)



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Designed to harmonize with clean-lined modern architecture

Available with (A) regular arm or (B) holder arm . . . 4 sizes to satisfy all requirements.

900 NORTON INADOR® CLOSERS INSTALLED IN FORD'S DISTINCTIVE NEW CENTRAL OFFICE BUILDING

The primary reason for such extensive use of INADOR® concealed type closers here is, of course, that they are so completely in harmony with the clean-lined modern styling of the doors they serve. No less important, however...their compact, fully concealed mechanism packs all the rugged dependable power found only in a true, liquid-type closer plus the reliability, low maintenance and precision workmanship common to all *Norton Door Closers*. Current catalog gives complete data on all models. Write for it today if you don't already have one.

A complete line of Norton Surface type closers is available for installations where concealment is not essential.

NORTON® DOOR CLOSERS

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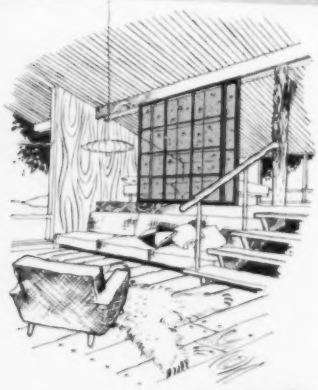
Federated Church, Kingfisher, Oklahoma • Architect: William Stanley Burgett, A. I. A.
Photograph: Ulric Meisel

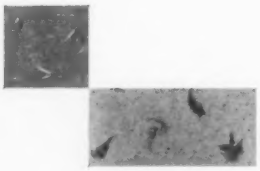
For ecclesiastical structures at once contemporary in expression and material, the architect specifies trade-marked "CRA-Certified Dry" California Redwood.

CALIFORNIA REDWOOD ASSOCIATION • 576 SACRAMENTO STREET • SAN FRANCISCO 11, CALIFORNIA

Bring the beauty of nature indoors with ACRYLITE . . .

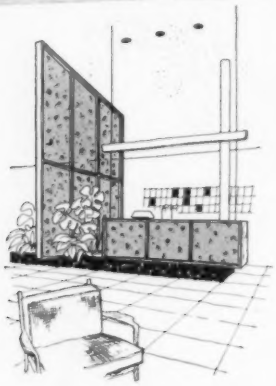
the only non-laminated structural plastic sheet with natural embedments of leaves, ferns, butterflies, fabrics. Send for exciting 36-page book of designs and samples.

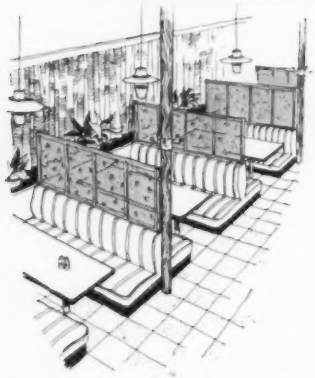


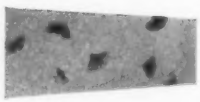


Try beautiful **ACRYLITE** for shoji walls, sliding doors, screens.

Try shatter-resistant **ACRYLITE** for spectacular large scale room dividers.







Try translucent **ACRYLITE** for partitions that provide privacy and transmit light.

WASCO PRODUCTS, INC.

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Wasco Chemical (Canada) Ltd., Toronto 12, Ontario

THE RECORD REPORTS

(Continued from page 314)

ern Architecture; an exhibition of scale models, photographs and building materials; until April 28 — Museum of Modern Art, 11 W. 53rd St., New York City

March

4–6 The 12th annual conference, Association for Higher Education of the National Education Association — Chicago

11–14 Annual convention, Associated General Contractors of America — Statler and Mayflower Hotels, Washington, D. C.

11–15 Second Nuclear Engineering and Science Congress of the Engineers Joint Council — Convention Hall, Philadelphia

14–15 Fifth Conference on Atomic Energy in Industry, sponsored by National Industrial Conference Boards — Benjamin Franklin Hotel, Philadelphia

17–21 Annual planning Conference, American Society of Planning Officials — Sheraton Palace Hotel, San Francisco

18–21 Annual national conference, Society of the Plastics Industry — Hotel Biltmore and Shrine Exposition Hall, Los Angeles

29–30 Great Lakes Regional Conference, American Institute of Architects — Louisville

April

1–6 Convention, Royal Australian Institute of Architects —Melbourne

3–5 Annual meeting, Committee on Art Education — University of Michigan, Ann Arbor, Mich.

4–6 South Atlantic Regional Conference, American Institute of Architects; theme, "Architecture and Man" — Hotel Biltmore, Atlanta

8–12 Annual national spring meeting, American Welding Society, Hotel Sheraton, Philadelphia

9–11 Fifth Welding Show, an industrial exposition sponsored by the American Welding Society — Convention Hall, Philadelphia

12–13 Second Conference on Urban Design — Graduate School of Design, Harvard University, Cambridge, Mass.

14–27 U. S. World Trade Fair, an international exposition — Coliseum, New York City

15–17 Annual meeting, Building Re-

(Continued on page 322)

YEAR-ROUND COMFORT BEGINS WITH THIS MAN

He's your Warren Webster Man! And with him, heating-and-cooling comfort always comes first, in homes both modern and modernized. At the right is one important member of his complete family of products — the Webster Heating-Cooling Conditioner.

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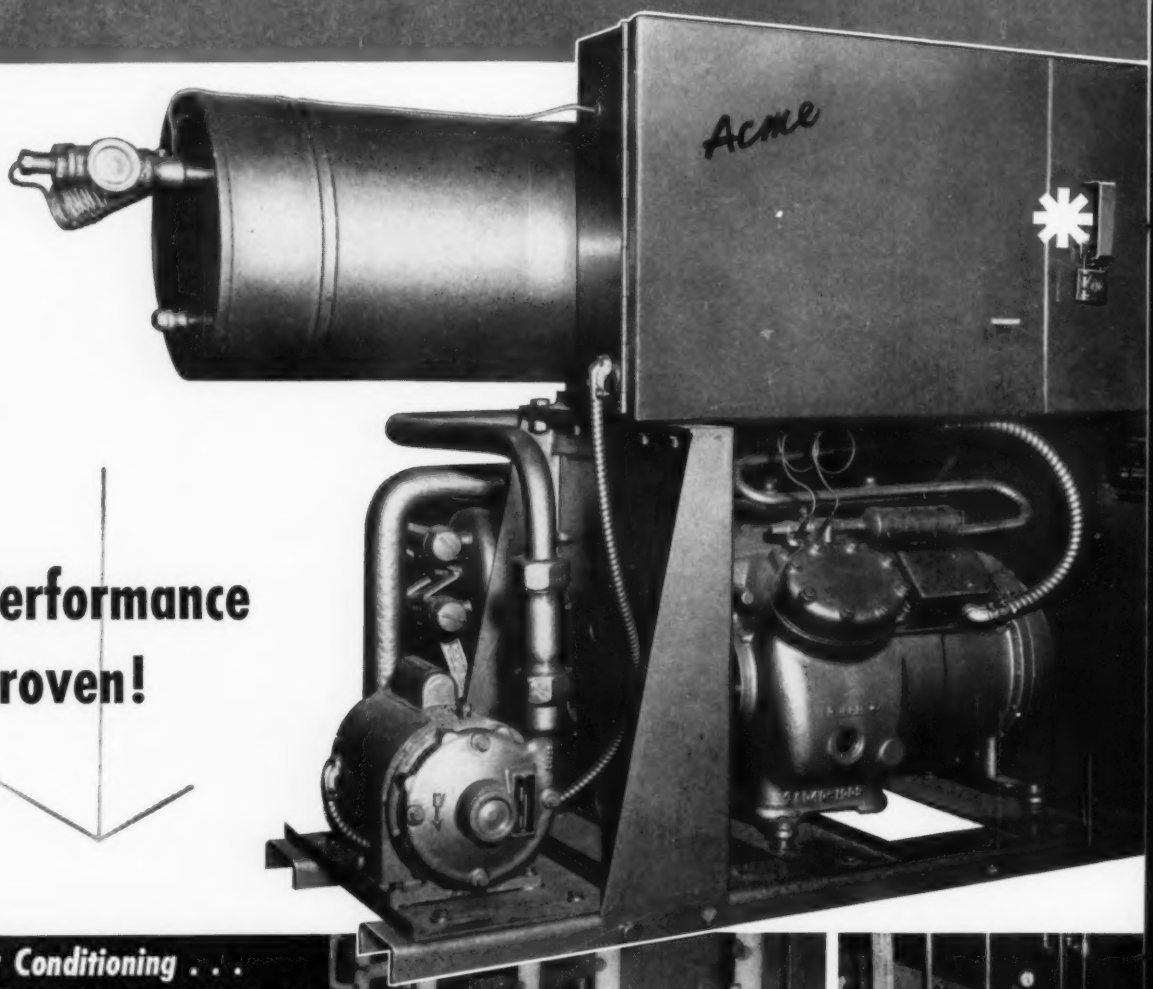


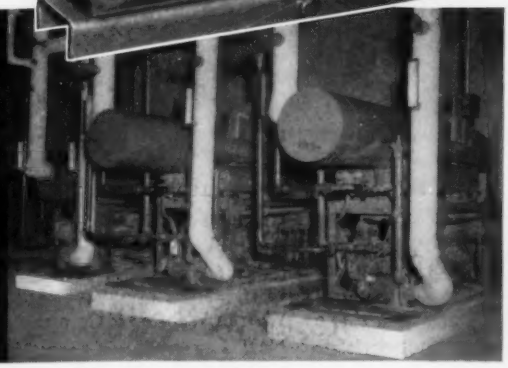
Performance Proven!

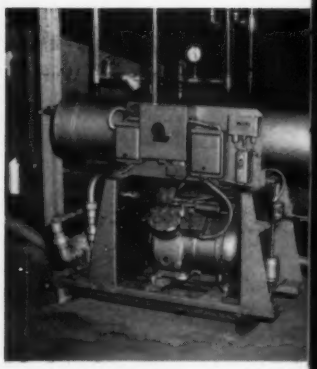
In Air Conditioning . . .

Flow-Cold chillers have chalked up outstanding performance records since introduced in 1950. Typical recent installation is one at right — one of 14 in Ohio Turnpike Service Plaza buildings.

In Industrial Cooling . . .

Flow-Cold's have been widely used to chill water, brines, oils and other liquids for industrial processes. At far right, the Flow-Cold used to control anodizing temperatures at Auto Specialties Mfg. Co., Hartford, Mich.





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Acme INDUSTRIES INC., Jackson, Michigan

Manufacturers of Quality Air Conditioning and Refrigeration Equipment since 1919

PACKAGED CHILLERS

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ROOM CONDITIONERS

SMALL TONNAGE LIQUID CHILLER

...the Acme FLOW-COLD®

It's Flow-Cold again for '57 – the most advanced, most specified line of packaged chillers in the 3 thru 20-ton range. Whether you're an engineer requiring the best in design and construction, or a contractor looking for ease of installation and trouble-free operation, there are good reasons for heading your chiller specifications with "Acme Flow-Cold."

The Flow-Cold's components – Dry-Ex® chiller, condenser, heat exchanger and super quiet, accessible-type, hermetic compressor – are tops for advanced engineering . . . proven performers! Flow-Cold chillers are *complete* packages . . . all piping and wiring factory-installed and tested *in operation*. All necessary controls are furnished . . . now fully enclosed to stop unauthorized tampering. And Flow-Cold chillers are not only factory tested, they're *certified* . . . a "first" among chiller manufacturers.

Now add the Flow-Cold's newly streamlined wiring and piping, neat, preformed pipe insulation and the inherent compactness of Acme's Flow-Cold design . . . and you have a chiller that's just as *good looking* in an installation as it is efficient and economical to operate.

NOW TAMPER-PROOF

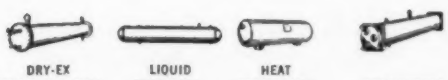
Ever experience the damage to a system from control "adjustments" by inexperienced personnel after a job is installed? The Flow-Cold's new enclosed control box can be locked to "foil the fiddle fingers" and keep servicing in the hands of the men who know how.

AND TEST-CERTIFIED

Proof of seven factory test procedures conducted under full load, Acme's Certificate of Performance guarantees contractors of ready-to-go dependability for every Flow-Cold shipped from Acme.

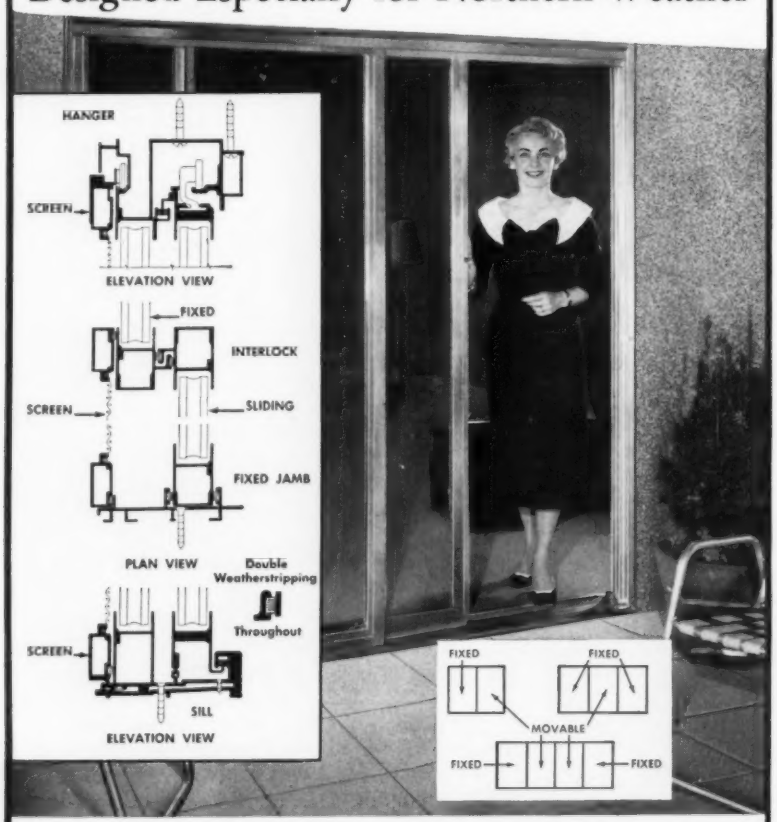
Acme Industries, Inc.

For advanced packaged chiller engineering in other capacities, investigate the Acme Flow-Therm, 20 thru 300 tons, and the Flow-Pac, 1¾ thru 5 hp.


DRY-EX LIQUID CHILLERS | LIQUID RECEIVERS | HEAT EXCHANGERS | CONDENSERS

Clip this coupon and attach to your letterhead to receive your new Acme Flow-Cold Catalog.

New Fleetlite
Sliding Glass Door
Designed Especially for Northern Weather



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Doors slide silently and easily on overhead ball bearings. Screens glide on nylon rollers. Doors interlock with double mohair weather stripping on all four sides. Specially designed aluminum extrusions provide rigidity and maintain alignment. You can specify plate glass or insulating glass up to one inch thick.

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Jalousie Windows and Doors protect in any climate. Inside screens replaceable with storm sash.

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City.....State.....

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THE RECORD REPORTS

(Continued from page 318)

search Institute — Edgewater Beach Hotel, Chicago

29ff Seventh National Materials Handling Conference and National Materials Handling Exposition; until May 3 — Convention Hall, Philadelphia

OFFICE NOTES

Offices Opened

• Detlie & Peck, Architects, a new firm composed of John Stewart Detlie, A.I.A., and Raymond H. Peck, A.I.A., has opened offices in the Securities Building, Seattle 1, Wash.

• Charles W. Hoefling has announced the establishment of offices at 1006 Third Ave., New Brighton, Pa.

• Horace V. Matson, Architect, has opened offices at 515 Rand Tower, Minneapolis 2, Minn.

• William F. Pedersen, A.I.A., and Bradford S. Tilney, A.I.A., have formed the partnership Pedersen & Tilney, Architects. Offices are at 215 E. 37th St., New York 16, N. Y.

Firm Changes

• Leo A. Daley Company, architects and engineers, have announced that William C. Alsmeyer has joined the firm as structural consultant; Dr. Alsmeyer was associate professor of civil engineering at Iowa State College. The firm's offices are in Omaha, Neb.; St. Louis, Mo.; and Seattle, Wash.

• Fritz von Grossman, A.I.A., has announced the admission of Charles W. Burroughs, Robert J. Van Lanen and Eugene E. Leucht as partners in the firm, which will be known hereafter as the Office of Von Grossman, Architects. Offices are located at 5455 W. Burleigh St., Milwaukee 10, Wis.

• Hansen & Winkler, Architects and Engineers, have succeeded the firm of the late Ernest Frederick Winkler, A.I.A. Partners in the new firm, which is located at 251 Post St., San Francisco, are Harold M. Hansen, A.I.A., and Edwin Winkler, Engineer.

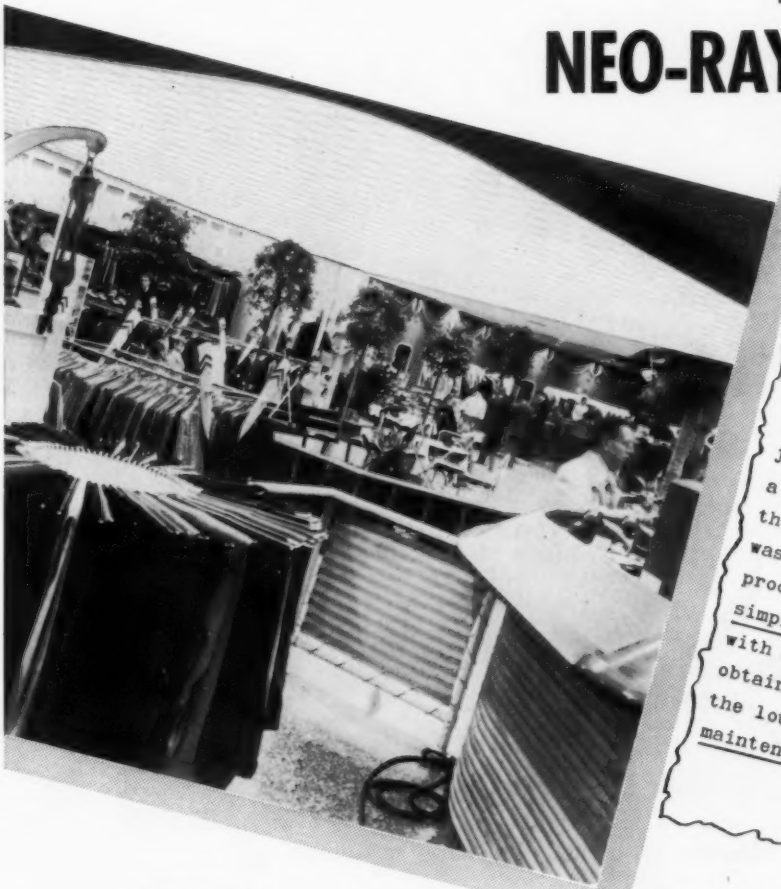
• Hunter, Campbell & Rea, Architects, is the new name of the firm Hunter, Caldwell & Campbell of Altoona, Pa.

• Pereira & Luckman have named Fred E. Wagner to the firm's planning department; Mr. Wagner was formerly city

(Continued on page 326)

simple erection!
fool-proof perfect alignment!
Ease of maintenance!

3 BIG REASONS
FOR CHOOSING
NEO-RAY LOUVRED CEILINGS



Dear Sir:

I selected Neo-Ray louvred ceiling for this portion of the job in order to accent and provide a different level of lighting in the lounge area of the store. I was influenced in selecting their product by what appeared to be a simple erection system, coupled with a fool-proof method of obtaining perfect alignment of the louvred sections. Ease of maintenance was also a factor.

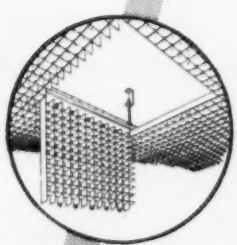
Very truly yours,

AMERICAN SHOPS

UNION, N. J.

Architects: THE ARCHITECTS GROUP
Newark, N. J.

Leo L. Fischer, AIA
H. C. Litwack, AIA
Jacob Shteir, AIA



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Let the "know-how" of our engineering department assist you. No obligation, of course.

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See our catalog in Sweet's Architectural File sec. 31a NE

MANUFACTURERS OF LIGHTING FIXTURES INCLUDING

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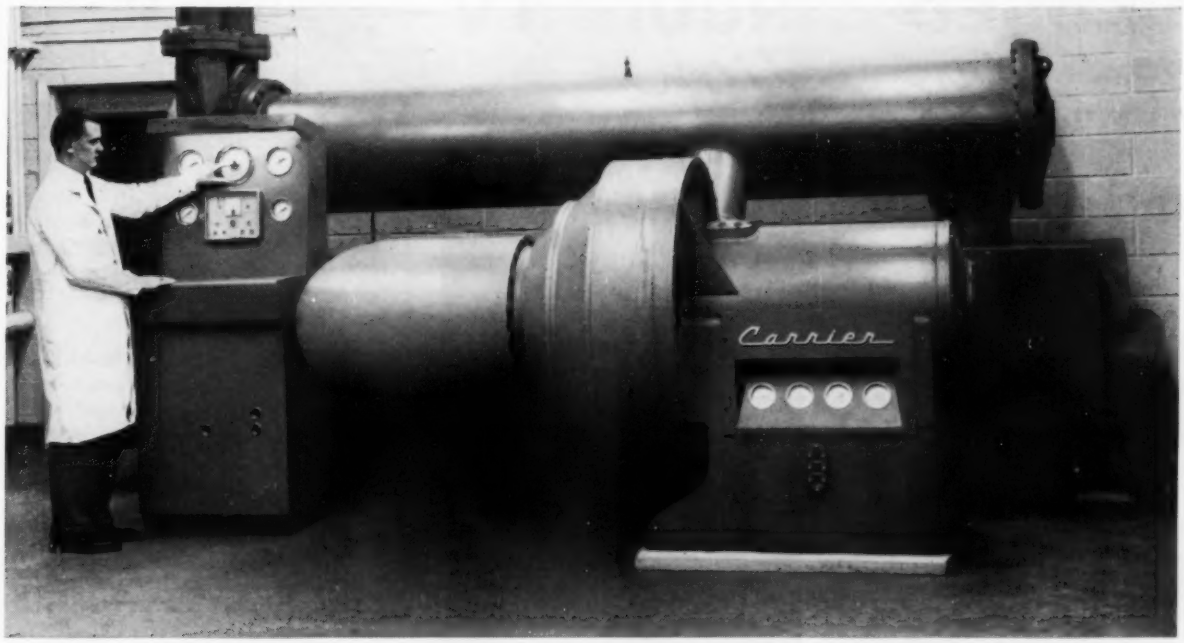
Which is best? Each provides unique advantages under special conditions.

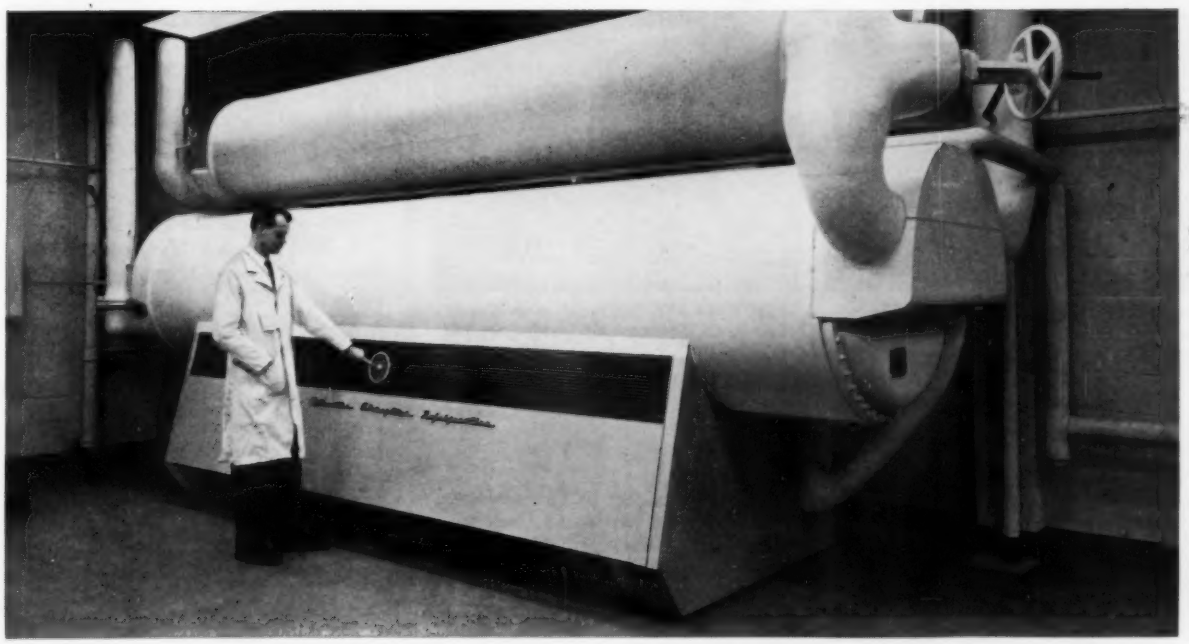
For complete information about them, call your nearest Carrier office.

Or write Carrier Corporation, Syracuse, New York.

Carrier



If you have low-cost power, the new Carrier Hermetic Centrifugal Refrigerating Machine offers unmatched advantages. It's the only hermetic with such advanced features as a refrigerant-cooled motor, hydraulic powered capacity vanes, and electronic controls for completely automatic operation. Its compact design and light weight minimize space and structural requirements. Capacities from 90 to 1000 tons. Other Carrier Centrifugal Refrigerating Machines up to 4000 tons. For smaller buildings, there are "packaged" Carrier Reciprocating Water Cooling Machines ranging from 3 to 200 tons.



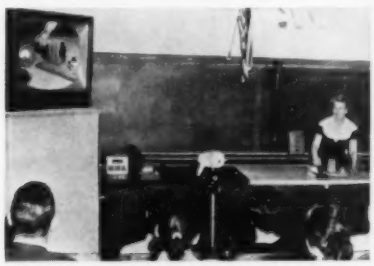
If you have low-cost steam, the best way may be a new Carrier Absorption Refrigerating Machine. It cools with heat energy derived from low-pressure waste steam or hot liquids to cut costs. Operates automatically at the push of a button. Follows fluctuating loads electronically from full load to zero capacity. It's safe—with water the refrigerant, a simple salt the absorbent. And it's so compact and vibration-free you can locate it wherever there's space to spare—on the roof, in the basement or anywhere in between. Cooling capacities in this new Carrier line range from 60 to 700 tons.

CLOSED-CIRCUIT TV
in action

Actual photos show how GPL *ii-TV affects building design**

BANKS save on high-cost space by keeping records in low-cost areas. Here, teller at The New York Savings Bank checks signature against picture flashed on TV monitor.

HOSPITALS Hundreds view treatments at Nebraska Psychiatric Institute. Cameras peer into treatment rooms. GPL TV projector shows wall-size pictures in auditorium.



SCHOOLS & COLLEGES At Port Chester High, (N.Y.U., Fisk & other schools) every student has front-row seat. GPL *ii-TV* makes for better school design.

HOTELS & OFFICE BUILDINGS use *ii-TV* for meetings, to handle overflow crowds, view distant records. GPL TV projectors made possible this GM event in 53 cities.

DEPARTMENT STORES Remotely-controlled GPL *ii-TV* camera makes the supervision and surveillance problems of this store simpler, far easier to handle.

BASIC *ii-TV* SYSTEM; finest, most dependable, costs less than medium-priced car. Mobile GPL TV Projector gives wall-size pictures 300% brighter than any other.

SEE *ii-TV** FOR YOURSELF

For specific information or assistance in providing for this precision-engineered closed-circuit TV system in your plans, write to: General Precision Laboratory Incorporated, 61 Bedford Rd., Pleasantville, N. Y.

*GPL's *industrial-institutional TV* system.

CATALOG IN SWEET'S

GPL — A SUBSIDIARY OF GPE

General Precision Laboratory Incorporated

THE RECORD REPORTS

(Continued from page 322)

planner for National City, Cal. Offices are at 9220 Sunset Blvd., Los Angeles, Cal.

• Smith, Hinchman, and Grylls Associates, Inc., architects and engineers, is the new name for the firm Smith, Hinchman and Grylls, Inc. The firm is at 800 Marquette Bldg., Detroit 26, Mich.

• Voorhees Walker Smith & Smith have announced that Charles Haines, A.I.A., with the architectural firm since 1932, has become a partner. At the same time, it was announced that Victor J. De Masi had been made a junior partner in the firm, which has offices at 101 Park Ave., New York 17, N. Y.

New Addresses

Henry J. Campbell Jr., Engineer, 288 Old Country Rd., Mineola, L. I., N. Y.

Hibbs, Robinson & Pettit, Architects, 254 N. Washington St., Wichita, Kan.

M. Tony Sherman & Associates, Architects and Engineers, 1101 N.E. 79th St., Miami, Fla.

ONTARIO GROUP LISTS RULES FOR IMMIGRANT ARCHITECTS

From the Ontario Association of Architects comes information on procedure to be followed by persons who have received their architectural education and experience outside the British Commonwealth and who desire to become eligible for admission to the Association in order to practice in Ontario.

Such persons must:

1. Take an oath of allegiance and declare intention of becoming a British subject.

2. Serve for not less than two years in the office of a practicing Canadian architect.

3. Submit to the Registration Board a chronological outline of education and experience, both abroad and since coming to Canada.

4. Submit a detailed breakdown, subject by subject, and year by year, of their university course in architecture, with standing.

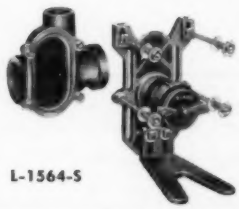
5. Submit photographs, drawings and/or prints indicating work done in Europe and since coming to Canada.

When a candidate has submitted the material outlined in items three, four and five, arrangements are made for him to be interviewed by the Association's Board of Examiners.

(More news on page 330)

BLAKE

COMBINATION ADJUSTABLE "TY" FITTINGS AND CARRIERS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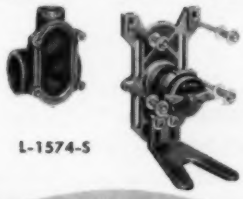
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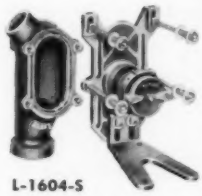
L-1564-SD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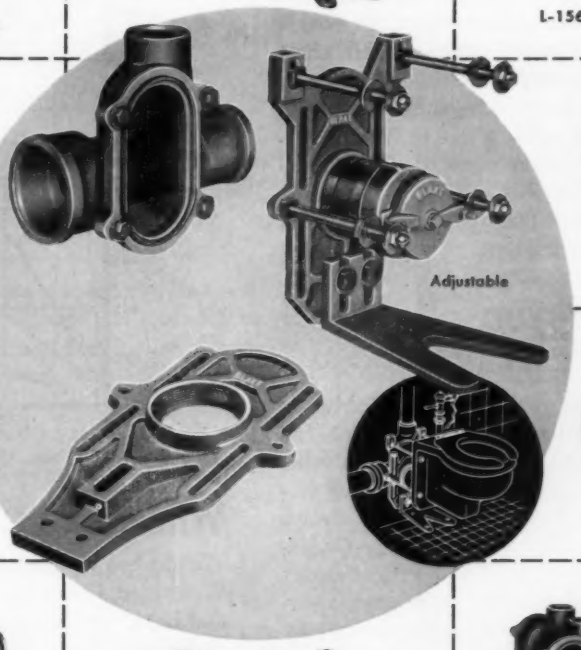
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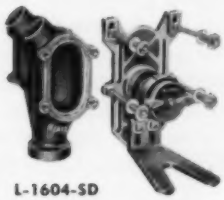
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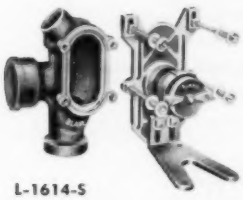
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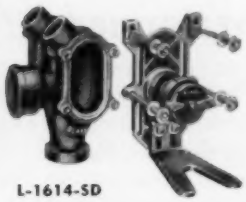
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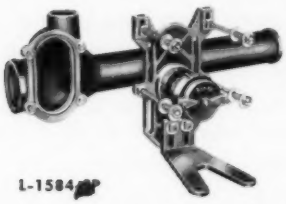
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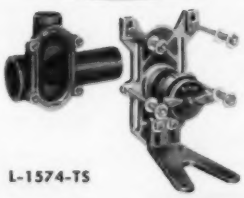
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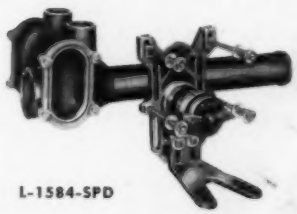
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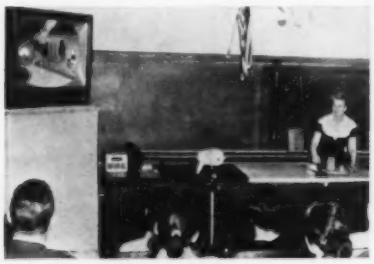
CLOSED-CIRCUIT TV
in action

Actual photos show how GPL *ii-TV affects building design**

BANKS save on high-cost space by keeping records in low-cost areas. Here, teller at The New York Savings Bank checks signature against picture flashed on TV monitor.

HOSPITALS Hundreds view treatments at Nebraska Psychiatric Institute. Cameras peer into treatment rooms, GPL TV projector shows wall-size pictures in auditorium.



SCHOOLS & COLLEGES At Port Chester High, (N.Y.U., Fisk & other schools) every student has front-row seat. GPL *ii-TV* makes for better school design.

HOTELS & OFFICE BUILDINGS use *ii-TV* for meetings, to handle overflow crowds, view distant records. GPL TV projectors made possible this GM event in 53 cities.

DEPARTMENT STORES Remotely-controlled GPL *ii-TV* camera makes the supervision and surveillance problems of this store simpler, far easier to handle.

BASIC *ii-TV* SYSTEM; finest, most dependable, costs less than medium-priced car. Mobile GPL TV Projector gives wall-size pictures 300% brighter than any other.

SEE *ii-TV FOR YOURSELF**

For specific information or assistance in providing for this precision-engineered closed-circuit TV system in your plans, write to: General Precision Laboratory Incorporated, 61 Bedford Rd., Pleasantville, N. Y.

*GPL's *industrial-institutional TV* system.

CATALOG IN SWEET'S

GPL — A SUBSIDIARY OF GPE

General Precision Laboratory Incorporated

THE RECORD REPORTS

(Continued from page 322)

planner for National City, Cal. Offices are at 9220 Sunset Blvd., Los Angeles, Cal.

• Smith, Hinchman, and Grylls Associates, Inc., architects and engineers, is the new name for the firm Smith, Hinchman and Grylls, Inc. The firm is at 800 Marquette Bldg., Detroit 26, Mich.

• Voorhees Walker Smith & Smith have announced that Charles Haines, A.I.A., with the architectural firm since 1932, has become a partner. At the same time, it was announced that Victor J. De Masi had been made a junior partner in the firm, which has offices at 101 Park Ave., New York 17, N. Y.

New Addresses

Henry J. Campbell Jr., Engineer, 288 Old Country Rd., Mineola, L. I., N. Y.

Hibbs, Robinson & Pettit, Architects, 254 N. Washington St., Wichita, Kan.

M. Tony Sherman & Associates, Architects and Engineers, 1101 N.E. 79th St., Miami, Fla.

ONTARIO GROUP LISTS RULES FOR IMMIGRANT ARCHITECTS

From the Ontario Association of Architects comes information on procedure to be followed by persons who have received their architectural education and experience outside the British Commonwealth and who desire to become eligible for admission to the Association in order to practice in Ontario.

Such persons must:

1. Take an oath of allegiance and declare intention of becoming a British subject.

2. Serve for not less than two years in the office of a practicing Canadian architect.

3. Submit to the Registration Board a chronological outline of education and experience, both abroad and since coming to Canada.

4. Submit a detailed breakdown, subject by subject, and year by year, of their university course in architecture, with standing.

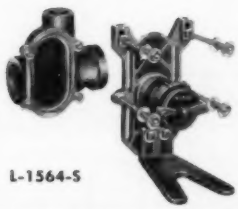
5. Submit photographs, drawings and/or prints indicating work done in Europe and since coming to Canada.

When a candidate has submitted the material outlined in items three, four and five, arrangements are made for him to be interviewed by the Association's Board of Examiners.

(More news on page 330)

BLAKE

COMBINATION ADJUSTABLE "TY" FITTINGS AND CARRIERS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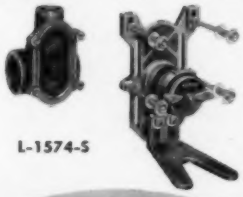
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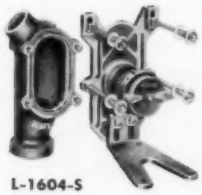
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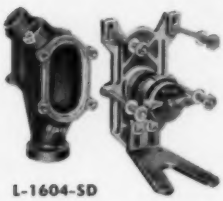
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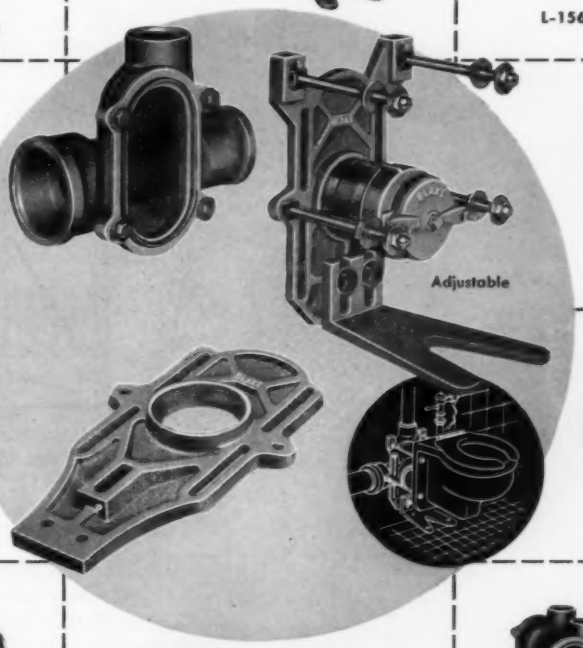
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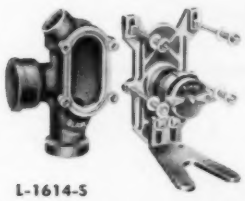
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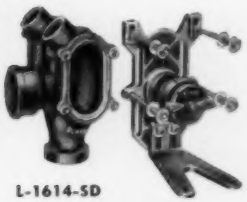
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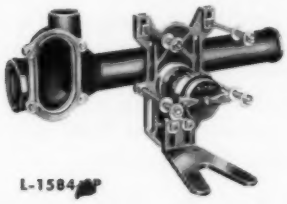
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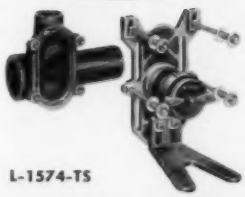
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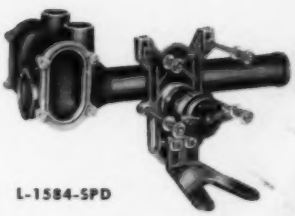
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LAVATORY CARRIER

URINAL CARRIER

Blake engineered design "TY" fittings and carriers support wall type closets independent of the wall, providing sanitary and easily maintained rest rooms. A compact, efficient assembly of component parts requiring a minimum of space, Blake "TY" fittings conserve valuable building area and insure proper waste line pitch.

• Horizontal or vertical installations • Single or double applications • Screw pipe or soil pipe • Syphon-jet or blow-out closets • Single installations or for batteries

For complete information on all Blake combination adjustable "TY" fittings and carriers, mail coupon.

50 YEARS 1906 1956

Blake Division
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Please send me catalog No. 2[illegible] and Carriers.
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Must a Fire Door

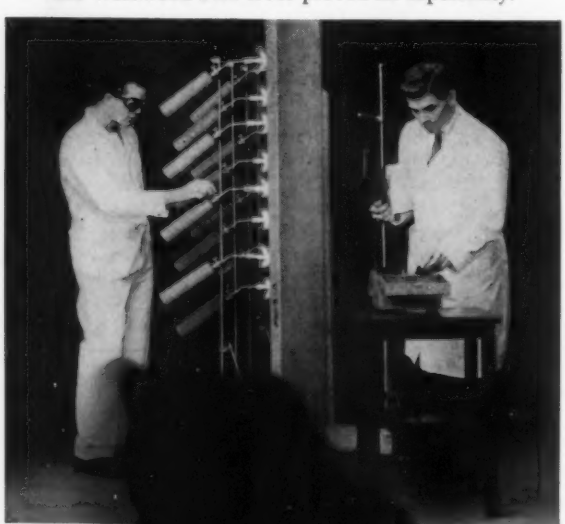
What about heat transmission?

Stopping flames is just one part of a fire door's job. For 500 F. heat will easily ignite many materials and cause fire to break out on the other side of a fire door even if the original flame and fire are stopped. This chart (right) proves the positive protection a Weldwood Fire Door offers against destructive, suffocating heat. This substantial margin of safety is due to Weldrok® — the exclusive incombustible core material of the Weldwood Fire Door (U.S. Pat. No. 2,593,050). Weldrok is a mineral material consisting of hydrous calcium silicates with asbestos fiber binding.

What about proven performance?

Just in the last 10 years, many thousands of Weldwood Fire Doors have been installed in all 48 states. Between them, these doors have lived through every conceivable adverse condition—fire, flood, slamming, storms, violence, and severe use. The Weldwood Fire Door always comes through! And this door is approved by Underwriters' Laboratories for all Class "B" (vertical shaft) *and* Class "C" (room and corridor partitions) openings. The Weldwood Fire Door is also approved by Factory Mutual Laboratories, New York City Board of Standards and Appeals, and Building Official Conference of America.

Blowtorch barrage! In laboratory tests up to 1700°F., the Weldwood Fire Door proved its superiority.



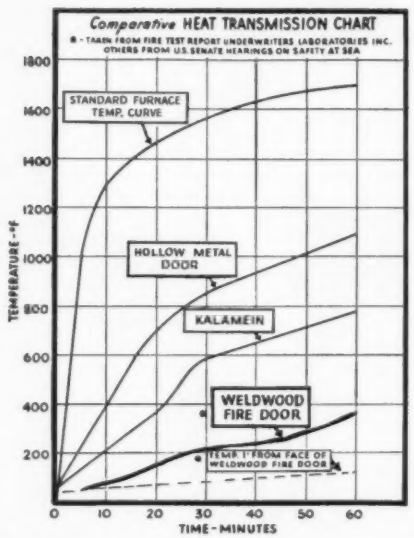


Chart shows *true* UL tests—not "averaged figures."

What about weight?

Weight has no part in stopping flames or heat. The Weldwood Fire Door gives vital protection from fire and heat, yet is *33% lighter* than some other core fire doors. And that lighter weight means no hidden costs from sky-high shipping charges . . . simpler installation because the door is easier to handle and carry. One man can install the Weldwood Fire Door. No undue strain on hinges and door frames, either!

What about day-to-day use?

Even with bad luck, a fire is a once-in-a-lifetime event. Day-to-day performance is almost as vital. The Weldwood Fire Door — because its Weldrok core is completely inert and won't absorb water — will never warp, twist or get out of line. And that's a guarantee! Furthermore, in laboratory tests a Weldwood Fire Door was opened and closed *200,000* times. Then the same door was opened and slammed shut an additional *100,000* times. Even after this torture test, the Weldwood Fire Door still worked like new!

What about appearance?

The Weldwood Fire Door is as beautiful as it is practical. Choice hardwood veneers are a pleasure to look at, easy to maintain. Choose from regular stocks of Birch, Korina®, Mahogany, Rift Oak, Walnut or any other wood, on special order. Veneers may be picked

be only "Fireproof"?

to match wood-paneled walls, if you wish. And doors are available in a *complete range* of sizes (up to 4′ x 7′—two sizes larger than some other doors). UL approved vision panels of 10″ x 10″ or 8″ x 12″ available.

What about construction?

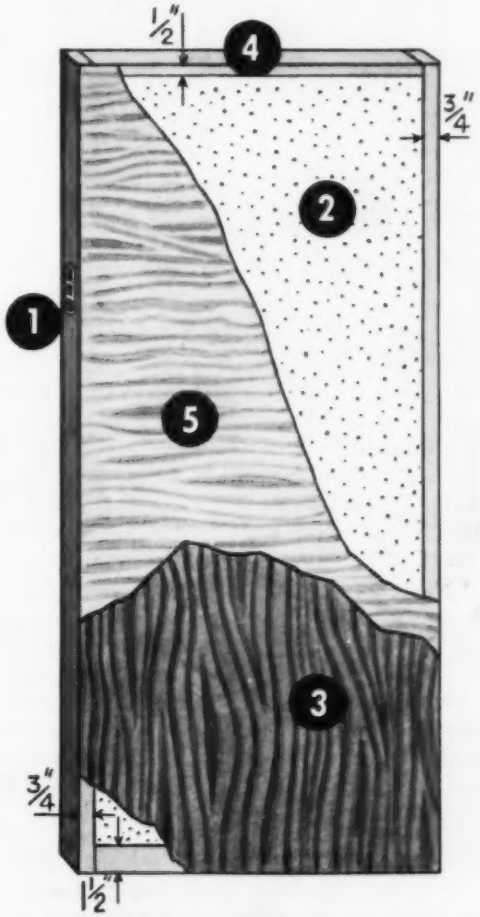
Compare the construction of the Weldwood Fire Door point by point:

1. ¾″ hardwood stiles treated with *Class "A"* fireproofing agent. Note UL label and individually registered guarantee number on the stile for your protection.
2. Incombustible Weldrok core. A material that needs no artificial fireproofing because it is *naturally* unburnable and incombustible. Won't char, deteriorate or "break down" either! This exclusive core material is dimensionally stable, strong, light in weight. Won't warp, shrink or swell.
3. Handsome hardwood face veneer $\frac{1}{28}$″ *thin.* (Send coupon for complete proof why "thin" veneers are better.)
4. Solid hardwood rails, treated with *Class "A"* fireproofing agent. Top rail is ½″, bottom rail 1½″ to permit trimming.
5. Hardwood crossbanding. This $\frac{1}{16}$″ veneer is bonded to the core with a waterproof phenolic resin glue.

All underwriter approved types of hardware are easily installed if simple directions are followed. This has been proved over years of continuous use with complete satisfaction.

What about a guarantee?

This guarantee is given *in writing* with every Weldwood Fire Door installation: "United States Plywood Corporation *unconditionally guarantees,* if properly installed, this Weldwood Fire Door against warping, twisting or manufacturing defects for the LIFE OF THE INSTALLATION. If any Weldwood Fire Door should fail to meet these standards, we will replace said door without charge, *including all labor costs of hanging and refinishing involved*"!



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FIRE DOORS

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Weldwood — The Best Known Name in Plywood

SEND FOR MORE INFORMATION

Architects Service Department
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Gentlemen: Please send me the following:

- ☐ Booklet #1663—Weldwood Doors
- ☐ Booklet #1245—Why is a "thin veneer" door better?
- ☐ Please have an Architects Service Representative call on me.

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CITY..... STATE.....

Section of Modern Washroom showing Bradley Washfountains and a Bradley 3-stall Shower Unit. (Tile floors and walls by American Olean Tile Co.)

YOU TOO, CAN "SHOW-OFF" YOUR MODERN WASHROOM IF EQUIPPED WITH

***BRADLEY** washfountains*

Well-equipped, modern washrooms encourage cleanliness. Bradley Washfountains found in such washrooms save space, reduce maintenance and janitor work, cut piping connections 80% and water consumption over 70%.

With foot-control, no time is lost—no water wasted since supply is cut off immediately foot is removed from foot-ring. There are no contaminating faucets to touch—hands, arms and even the torso to the waist, can be washed—each person served fresh clean tempered water from the central sprayhead.

Colors, Too

Bradley precast stone and vitreous enamel models are made in colors to match or harmonize with tile floors or walls—further encouraging neatness.

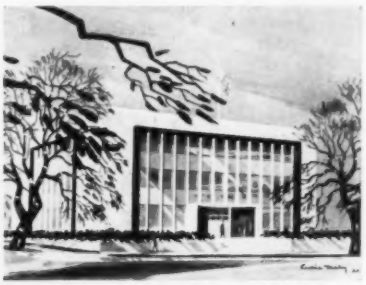
Bradley *Washfountains* and *Showers* provide economical, super-sanitary washing and bathing facilities for factory men and women, "white collar" employees, and are widely used in schools, institutions and public buildings, too. Catalog 5601 shows complete line with specifications—copy free on request. BRADLEY WASHFOUNTAIN CO., 2227 W. Michigan St., Milwaukee 1, Wis.

Write for New Catalog 5601.

**BRADLEY WASHFOUNTAINS and SHOWERS are Distributed Through Plumbing Wholesalers.*

THE RECORD REPORTS

(Continued from page 326)



WASHINGTON HEADQUARTERS PLANS ANNOUNCED BY A.G.C.

The Associated General Contractors of America will have a new headquarters building in Washington, D. C., designed by the architectural firm of Chatelain, Gauger & Nolan, of which the current president of the American Institute of Architects, Leon Chatelain, Jr., is the senior partner.

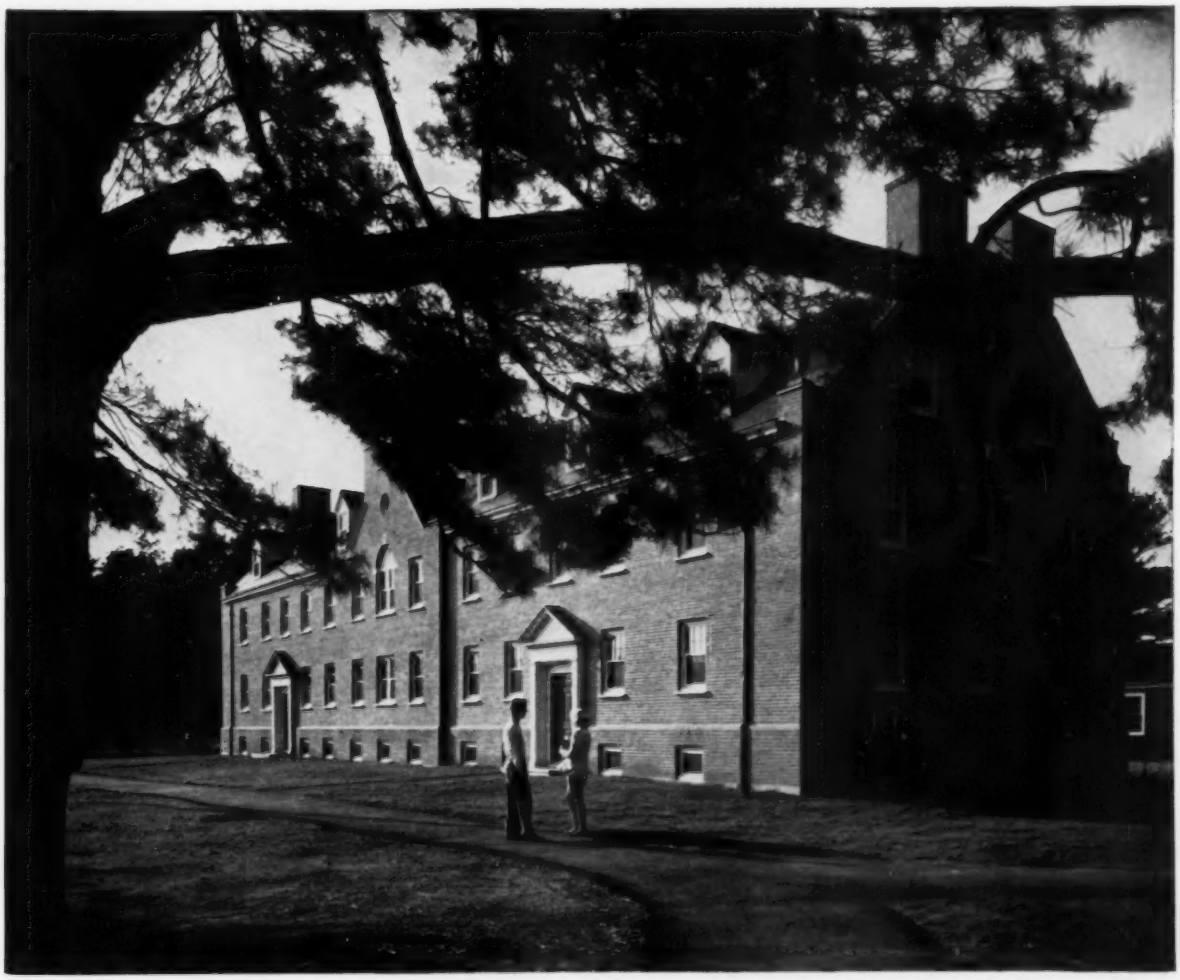
Announcement of the plans came in late December from A.G.C. President Frank J. Rooney of Miami. According to present schedule, groundbreaking ceremonies will be held during A.G.C.'s 38th annual convention in Washington March 11–14; occupancy is scheduled for the summer of 1958.

The site, which has the necessary land use approval from the District of Columbia Board of Zoning Adjustment, is on the northeast corner of Twentieth and E streets N.W., just four blocks from the White House, in the Northwest Rectangle area of Washington, where there are already many Federal buildings and are soon to be more.

The new headquarters, designed for maximum efficiency of staff operation, will have from 19,000 to 20,000 sq ft of usable office space, compared with the 9000 sq ft in the present A.G.C. headquarters in the Munsey Building, where A.G.C. has had offices since 1919. Exteriors will be of buff Indiana limestone, and A.G.C. feels that "the institutional design is in keeping with the outstanding buildings near by, and with the prestige and dignity of the association of the nation's 6700 leading contractors."

By vote of A.G.C.'s Executive Committee, members of the Master Builders Association of the District of Columbia, the A.G.C. chapter in Washington, have been authorized to bid on construction of the building. The interested members are to submit their qualifications to the architect, who is to select six firms to receive plans. The contract will be awarded to the lowest responsible bidder.

(More news on page 334)



The new Gordon College dormitory was designed by Monahan, Meikle & Johnson, architects, of Pawtucket, R. I. General Contractor was George B. H. Macomber Co. of Boston, Mass.

STEEL JOISTS HELP PROVIDE FIRE-SAFETY FOR COLLEGE DORMITORY

Bethlehem Open-Web Steel Joists were used in the floor and ceiling construction of this attractive new dormitory at Gordon College, Wenham, Mass. This type of construction — steel joists in combination with floor slab and poured ceiling — provides fire-resistance of up to four hours.

There were other advantages in using Bethlehem Steel Joists. The joists help to make the structure permanently non-sagging and non-warping, holding future maintenance to a minimum.

They arrived at the job site fully-fabricated and clearly marked, ready for immediate erection. Only field welding was necessary to secure the joists firmly in place. They simplified the work of other building trades, as pipes and conduits could be run right through the open webs, and overhead lighting fixtures were readily installed.

We have published a new illustrated catalog on Bethlehem Open-Web Steel Joists, including both the Shortspan and Longspan Series, and giving complete information on design, specifications and joist accessories. If you would like a copy, please write to the nearest Bethlehem sales office, or send your request direct to us at Bethlehem, Pa.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

BETHLEHEM OPEN-WEB STEEL JOISTS

BETHLEHEM STEEL

Designing roof decks? Here's

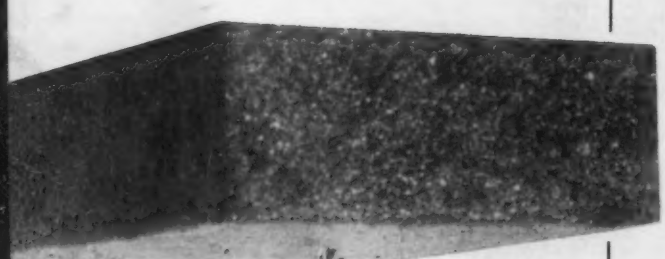
Only **Fesco Roof Deck Insulation Board** rates so high on **every** important count. No other board at any price matches this **balanced combination** of properties. This is because Fesco Board was developed specifically for roof deck insulation. Write for detailed specifications.

F. E. Schundler & Company, Inc.

504 RAILROAD STREET • JOLIET, ILLINOIS

RATED FIREPROOF MATERIALS, ACOUSTICAL AND INSULATING

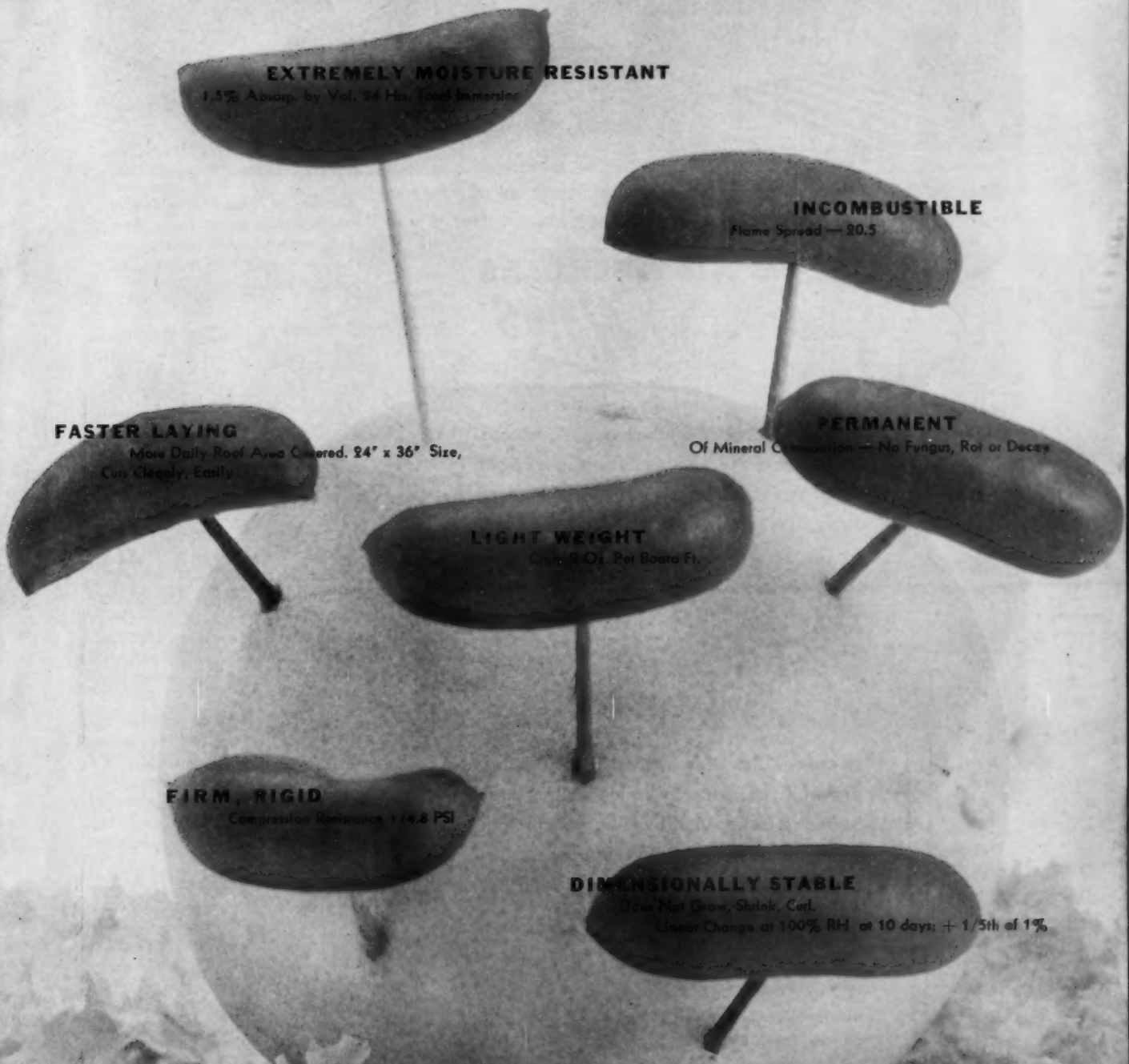
Developers and producers of distinguished, incombustible mineral products including Ebbtone Acoustical Tile, Fesco Insulation Board, Coralux Acoustical Plaster, Coralux Perlite Aggregates, Mica Pellet Vermiculite, High Temperature Insulating Blocks and Insulating Cement.



Cellular structure of Fesco blocks out moisture, thermal conductance, creates compressive strength.

The answer to better roof decks is

food for thought:


EXTREMELY MOISTURE RESISTANT
1.5% Absorp. by Vol. 24 Hrs. Total Immersion
INCOMBUSTIBLE
Flame Spread — 20.5
FASTER LAYING
More Daily Roof Area Covered. 24" x 36" Size,
Cuts Cleanly, Easily
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Of Mineral Composition — No Fungus, Rot or Decay
LIGHT WEIGHT
FIRM, RIGID
Compression Resistance 174.8 PSI
DIMENSIONALLY STABLE
Does Not Grow, Shrink, Curl.
Linear Change at 100% RH at 10 days: + 1/5th of 1%

FESCO BOARD

 (Continued from page 330)

Enclosed ice arena with roof structure calculated to resist very heavy snow loads is key feature of Squaw Valley Olympic development; below, athletes' village at lower right

OUT OF THE WILDERNESS: A WINTER OLYMPICS AREA

Preliminary proposals for development of the 1960 Winter Olympic Games Site in Squaw Valley near California's famed Lake Tahoe have been presented to and approved by the Olympic authorities.

The problem faced by Corlett and Spackman, Kitchen and Hunt, Architects Associated, was unique: to turn a virtually trackless and undeveloped wilderness sometimes buried under 20 ft of snow into the first site in Olympic history for the staging of all Winter Games in one centralized area.

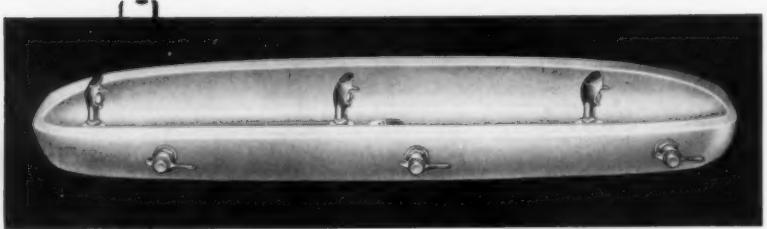
Athletic facilities to be built include two ski jumps, speed skating rink, three hockey rinks which double as figure skating rinks, a bobsled run, downhill and slalom ski course and cross-country course. Among the supporting facilities will be an Athletes' Village which, again for the first time in the history of the Winter Games, will house all 1200 participating athletes and their coaches and trainers in one secluded area.

Most important of the individual structures to be erected will be the enclosed ice arena which will house the opening and closing ceremonies of the Games, figure skating and ice hockey events.

(Continued on page 338)

...in COLOR ..in FIBERGLAS ...by HAWS

A bright new idea in drinking fountains! Model 10Y combines HAWS famous sanitation features with amazing lightweight toughness of Fiberglas plastic...the modern strength material.



Model 10Y

In color! Choose from five decorator colors and white, permanently bonded to receptors to assure lasting vitality. Fiberglas strength foils vandalism, too! Color appeal and ruggedness make this model ideal for school use.

Write today for details...
and ask for your free copy of the 1957 HAWS Catalog...72 pages, with hundreds of design ideas for drinking facilities.

HAWS DRINKING FAUCET CO.
1443 FOURTH STREET (Since 1909) BERKELEY 10, CALIFORNIA

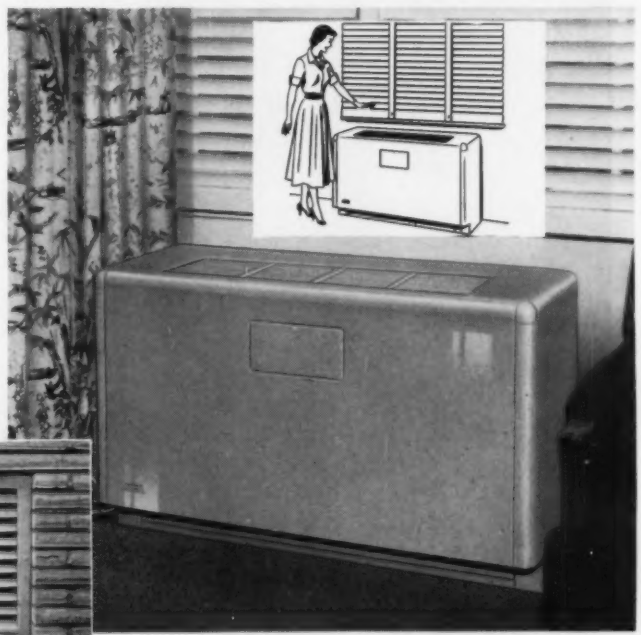
MUELLER CLIMATROL PLANNING AIDS . . .
. . . CLIMATE CONTROL FOR HEALTHFUL LIVING

New approach to all-season air conditioning

Hailed as Budget-Minding Wonder

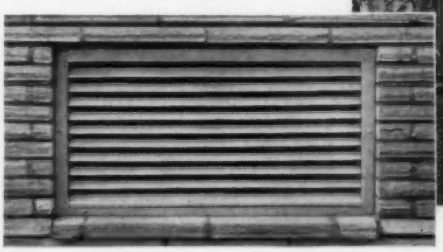
MUELLER CLIMATROL recessed, year-round room air conditioners cost about one third less to install . . . 20% less to operate than central cooling alone. The most economical way to bring all-season comfort to commercial or institutional buildings — they heat with existing steam or hot water, cool with their own efficient cycle . . . offer individual thermostatic comfort control, room by room. And they use no water.

These new units typify the progress-pacing creative engineering that has marked Mueller Climatrol's 100 years in business.



Each handsome, recessed unit offers tremendous versatility . . . heats, cools and dehumidifies.

Attractive, stainless steel louvre opening fits flush to outside of building. Allows for ventilating with fresh, outdoor air . . . exhausting of stale, indoor air.



Chicago's world-famous Edgewater Beach is one of several hotels to take advantage of this big new idea in all-season comfort. Note! Installation can be scheduled room-at-a-time on a rotative basis so tenants aren't disturbed.

CENTENNIAL YEAR CELEBRATION IN '57 will include new, functional ideas for you from Mueller Climatrol. Write today for complete details on budget-minding, year-round room air conditioners . . . and for free anniversary booklet.

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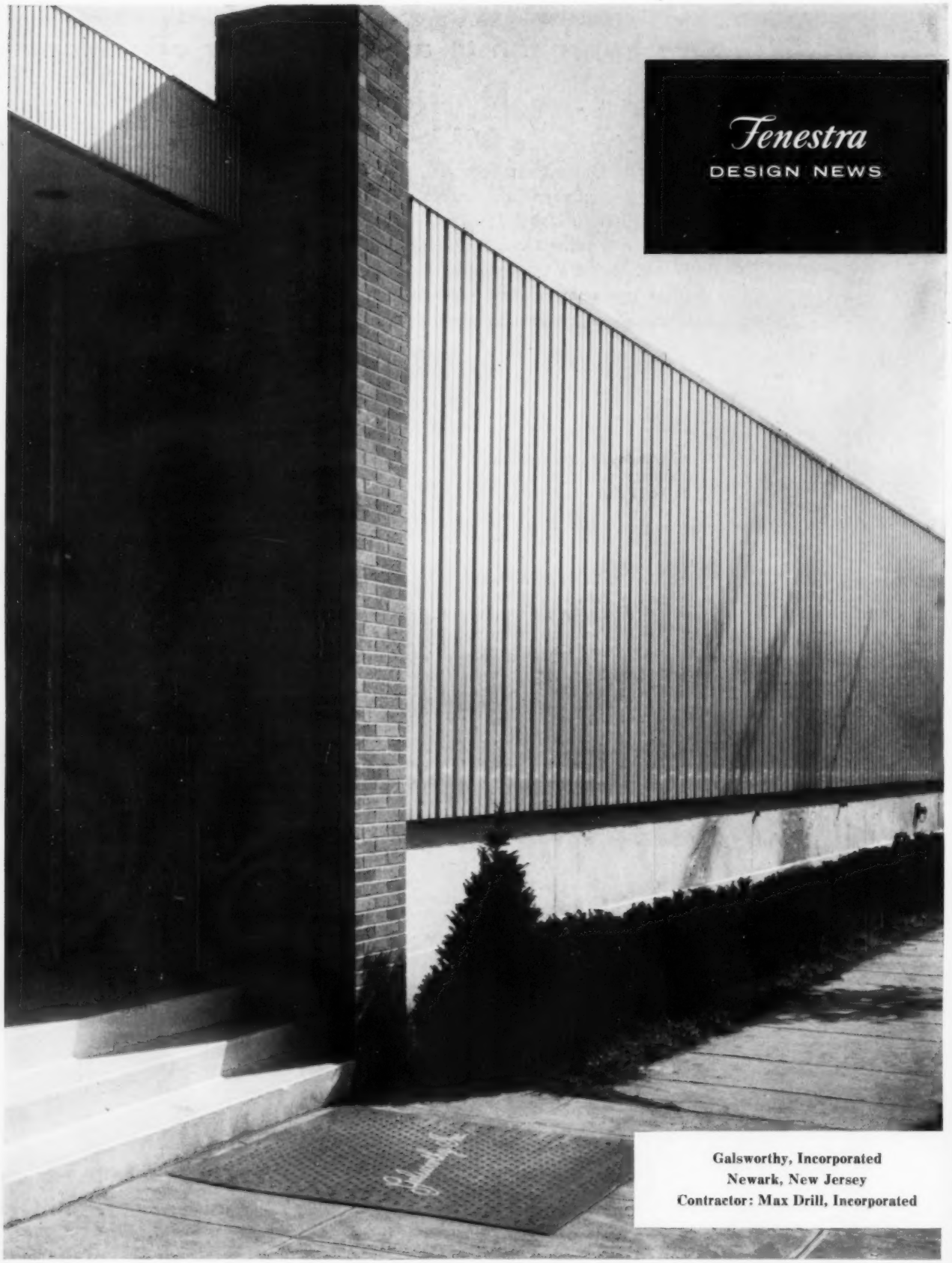

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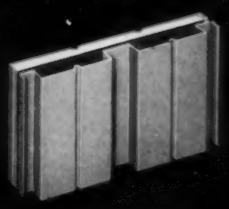
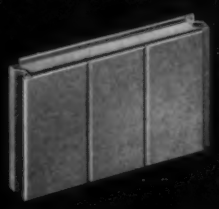
Contractor: Max Drill, Incorporated



NEW Fenestra Type "FA" Wall Panel — Designed for simple, fast field assembly. Distinctive exterior design with deeply revealed fluting. Exterior — galvanized steel or grained aluminum (porcelain enamel optional). Interior — galvanized steel. Width 24". Lengths to 31'. Depth 3".



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To meet your demand for better looking, more efficient, lower cost wall panels for curtain wall construction, Fenestra introduces two new insulated metal wall panel products. Based on more than a quarter century of experience in the design and erection of this type of construction, these new Fenestra Insulated Metal Wall Panels give you many important advantages for industrial, commercial and other types of buildings.

Fast, easy erection—Lightweight, large area Fenestra Wall Panels are quickly attached by welding or bolting. Your buildings can be enclosed in days rather than weeks. This saves labor costs and gives the owner quick occupancy and a faster return on his investment. New Fenestra Type "FA" Panels are designed for field assembly for extra economy.

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High insulating value—Fenestra Metal Wall Panels provide insulating values better than a 16" masonry wall furred and plastered. U-factors range from .08 to .19 depending on panel type. Two-pound-density glass fiber insulation with excellent nonsettling properties is used. Since the panels are only 3" deep, this efficient insulation value means extra floor space for your buildings within the same foundation area.

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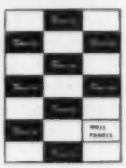
The New Fenestra Wall Panel catalog gives you complete details and design data on Fenestra Type "FA" and Type "C" Insulated Metal Wall Panels. Mail the coupon, below, for your FREE copy or call your local Fenestra representative—listed in the yellow pages.



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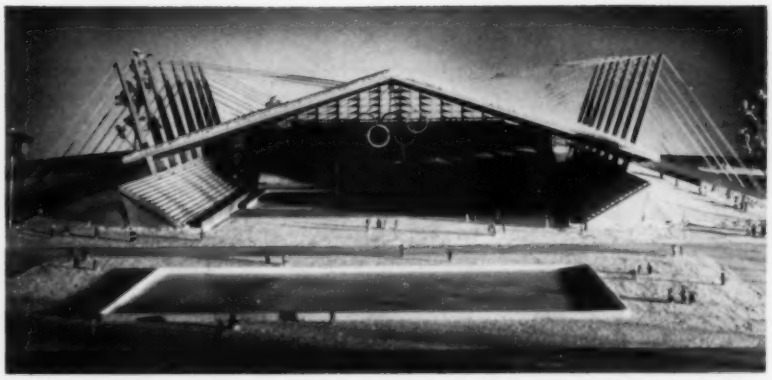
THE RECORD REPORTS

(Continued from page 334)

The 300-ft clear-span roof shelter of the arena rises at a 4-in-12 pitch to a height at the ridge of 90 ft above the skating rink. The arena is enclosed on three sides, completely open on the fourth to the warming sun from the south, with a view of the speed skating rink and the ski jumps beyond.

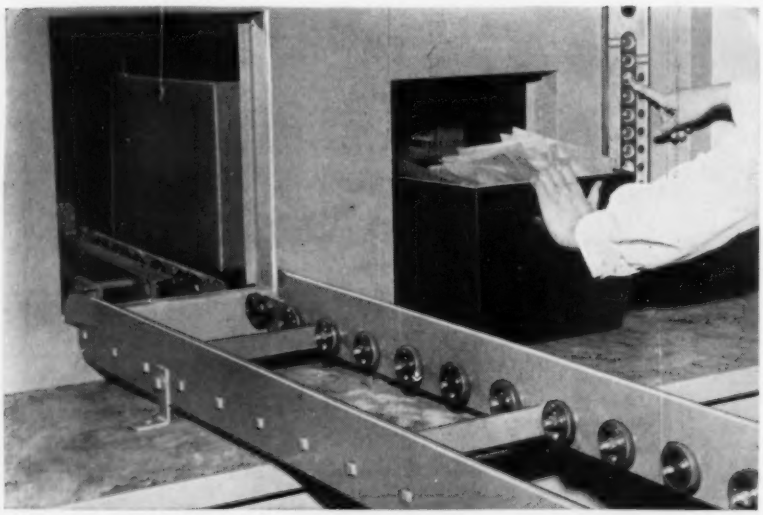
The roof structure, which must be capable of supporting very heavy snow loads, consists of a cellular steel deck spanning about 12 ft, rolled steel beam purlins spanning 33 ft, and the main supporting frames at 33-ft centers, spanning 300 ft. The main supporting frames consist of tapered columns built up from steel plates, tapered steel box girders, and inclined cable tension members. Each half of the main frame acts independently, in somewhat the manner of a guy derrick, with the roof girder functioning as the boom, the column as the mast and the inclined cables as the guys. Cable anchorages are provided by deadmen of concrete and masonry, with the roof girders extended resisting the horizontal thrust.



Reverse cycle refrigeration, preliminary analysis has indicated, can be used economically to melt the snow, reduce condensation and partially heat the entire building. For economical distribution of the heated air, the roof deck is used to carry it for melting the snow and preventing condensation; areas under the bleachers are used to carry the main air, partly warming the seats and permitting such ducts to be concealed.

H. J. Brunnier and John M. Sardis are structural engineers for the project; Vandament and Darmsted, and John Gayner, mechanical engineers; Punnett-Pares and Hutchison, consulting engineers; Office of Clyde C. Kennedy, sanitary engineers; Eckbo, Royston and Williams, landscape architects; Anne Knorr, delineator.

(More news on page 342)



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RECORDLIFT convenience and speed permit the uninterrupted coordination of related departments, regardless of their location. Containers can be sent to any floor in just a few minutes. And because of its simplicity and push-button control, the RECORDLIFT can be easily operated by anyone.

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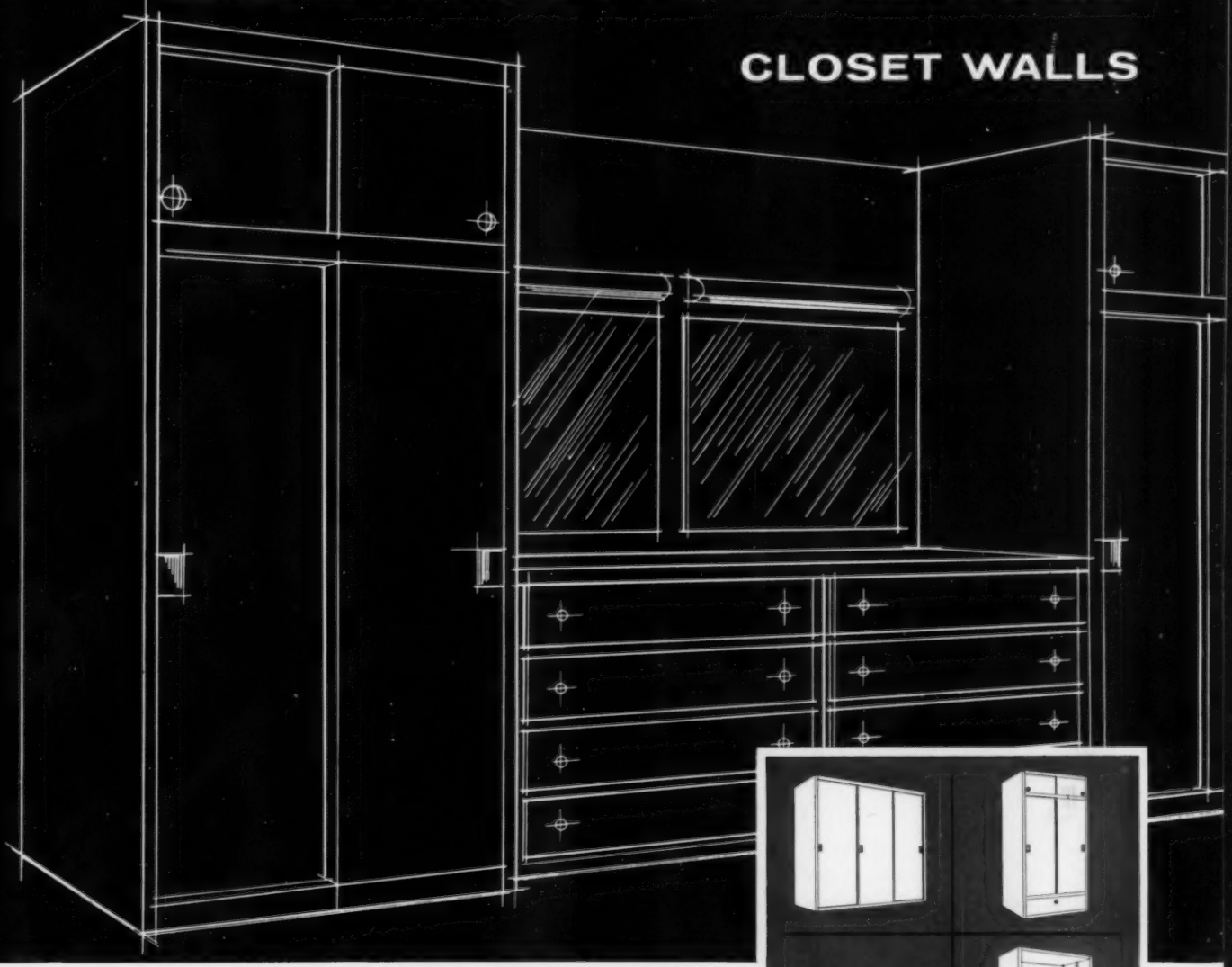

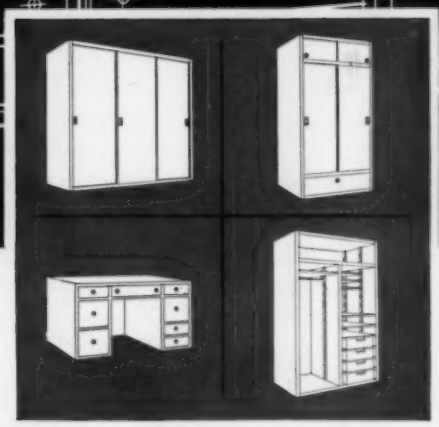

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Complete design service is at your disposal. Let Brunswick help you save space while you cut construction costs. Just contact your Brunswick representative or write direct . . . today!

See Brunswick at the A.A.S.A. Convention

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See how Sprayolite forms a monolithic surface on every contour. It dries with uniform color and texture...with no joining marks from starting and stopping application.

Three firms worked together to produce this remarkably efficient sound ceiling. Architects: Houstoun-Ferguson & Associates; General Contractor: Arkin Construction Co.; Lathing and Plastering Contractor: U.S. Plastering Co., all of Miami, Florida.

QUIET IN 40 ALLEYS

SPRAYOLITE ACOUSTICAL PLASTER SOUND-CONDITIONS SOUTH'S LARGEST BOWLING CENTER

Miami's giant new Bird Bowl quiets the rumble and crash of bowling noise with Gold Bond Sprayolite. This super-white acoustical plaster was sprayed on a sawtooth ceiling construction... combining greater sound reduction for customer comfort with real ceiling beauty.

Superwhite Sprayolite is being specified everywhere to solve such unusual sound problems... especially where *low cost,* decorative acoustical treatment is desired.

Sprayolite goes on fast even over intricate contours... dries, rather than sets, to form a porous, sound-deadening surface with an NRC rating of .55. Its exceptional bonding qualities permit application to basecoats of gypsum, portland cement-lime, direct to monolithic concrete, or to any usual ceiling surface that is sound, clean, and free of foreign matter.

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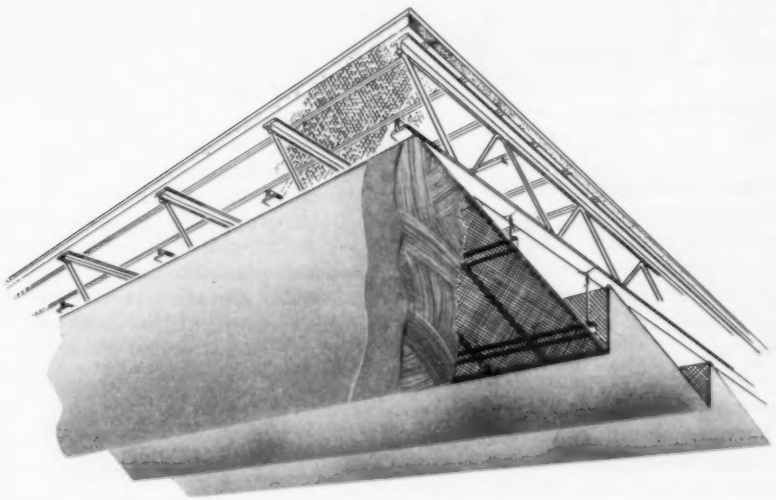
Specify Gold Bond Sprayolite acoustical plaster on your next job. For full details consult your Sweet's catalog, Section 12d/Na or write National Gypsum Company, Dept. AR-27, Buffalo 2, New York.



The Bird Bowl job...is a Gold Bond job. The diagram at the left is typical of the ceiling used in this gigantic bowling center. All forty alleys at the Bird Bowl were sound conditioned overhead with Gold Bond products throughout. First, Gold Bond 3.4 Diamond Mesh Metal Lath was attached to suspended metal channels. Then Gold Bond Fibered Plaster was used for the scratch and brown coats. Finally, 5500 yards of Gold Bond Superwhite Sprayolite Acoustical Plaster were sprayed on... to give the pleasing effect shown in the photograph of the alleys. This combination of Gold Bond products offers exceptional fireproof construction.

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BUILDING PRODUCTS

THE ARCHITECTURAL REVIEW, November 1956 (Great Britain), marked the event of Louis Sullivan's centennial by featuring a reassessment by Colin Rowe of the influence of the "Chicago Frame" and of that city's place in the modern movement. "The frame," ran the author's introduction, "has been the catalyst of an architecture, but one might notice that it has also *become* architecture, that contemporary architecture is almost inconceivable in its absence. . . . Without stretching analogy too far, it would be fair to say that the frame has come to possess a value equivalent to that of the column for classical antiquity and the Renaissance. Like the column, the frame establishes throughout the building a common ratio to which all the parts are related; and like the vaulting bay in the Gothic cathedral it prescribes a system to which all parts are subordinate."

As for Chicago's position in the development of modern architecture, Mr. Rowe went on, "In Chicago seemingly our own interests were so directly anticipated that if the frame structure is the essence of modern architecture then we can only assume a relationship between ourselves and Chicago comparable to that of the High Renaissance architects to Florence, or of the High Gothic architects to the Île-de-France, for although no doubt the steel frame did make occasional undisguised appearances elsewhere, it was in Chicago that its formal results were most rapidly elucidated. For some ten years the architects of Chicago devoted themselves to the solution of typical problems of the frame, and before the end of this time they had achieved results which are still today unsurpassed for their elegance and economy."

Mr. Rowe was unwilling, however, to go quite so far as Florence and the Île-de-France in favor of Chicago's place in 20th century design. For one thing, he said, the Chicago architects had failed "to arrive at any statement of the frame as a vehicle of spatial expression" and pointed to the case of Frank Lloyd Wright, who, absorbed in the relationship of the plan to an "organic" structure, appeared to find the problem of the grid frame "intractable and unsympathetic." When Wright did design multistory buildings — e.g., the Johnson Administration Building or the Price Tower — they were built on a system much different from the grid frame.

And if Chicago did not say the last word on the steel frame, neither was it, Mr. Rowe suggests, the spiritual progenitor of modern architecture. In Chicago, the steel frame was a commercial proposition; no less a person than Sullivan admits it. It developed not so much from architectural demands as from the merchandising instinct of rolling mill salesmen and the sharp eye of Chicago businessmen for economical building, and it was left to the more theoretical-minded Europeans to develop "a formula permitting the simultaneous appearance of both structural grid and considerable spatial complexity."

Chicago at mid-century, the author observed, has for the third time become a stage for an architectural leader: ". . . only in recent years has Wright's second Chicago become completely significant — as a foil to that third and Miesian city which is at present taking shape. . . . It would be futile to ask why, but enough to state that it has been so, that in Chicago the principal critical problems of 20th century architecture will be found to be embodied."

(Continued on page 344)

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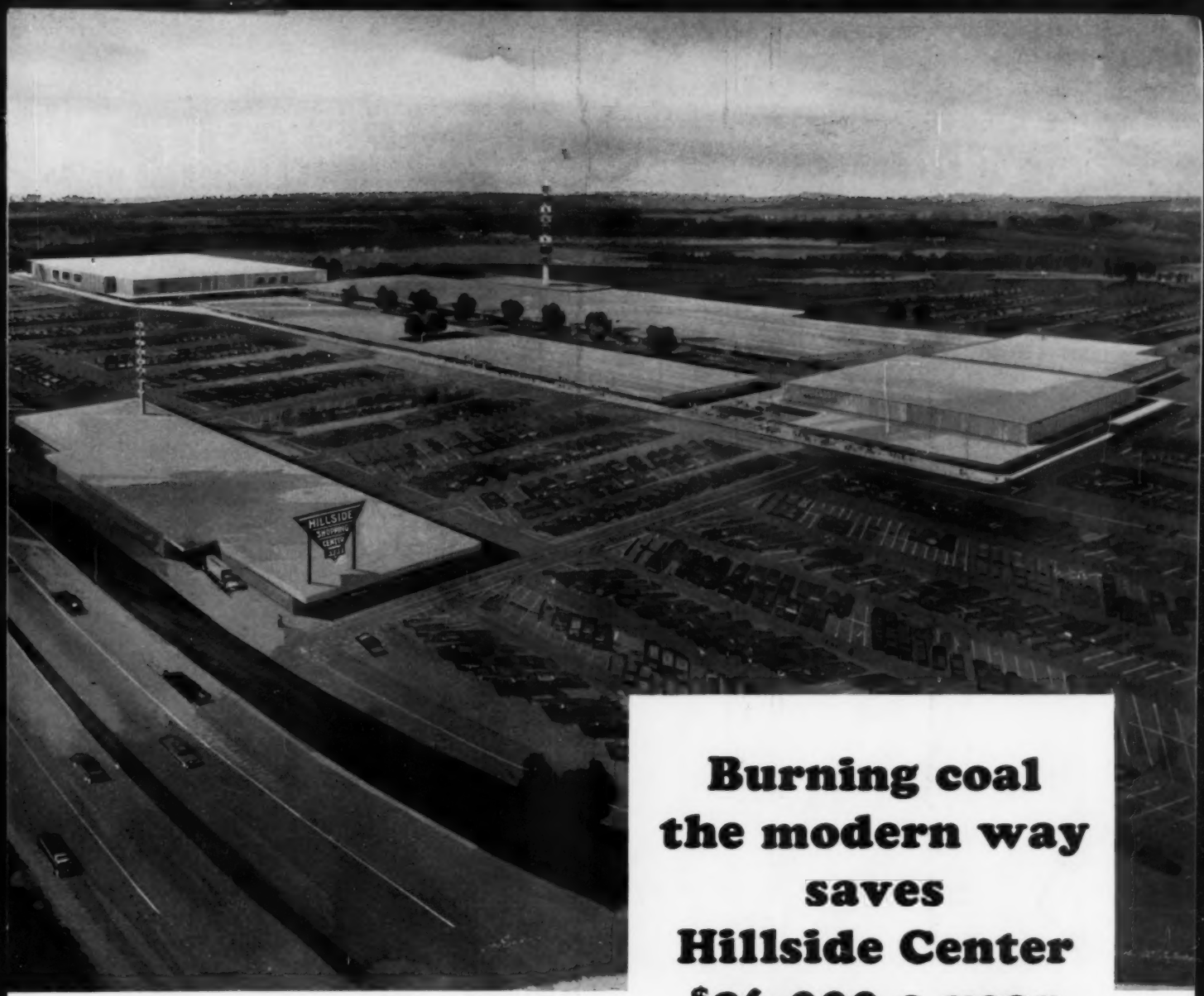

Burning coal the modern way saves Hillside Center $26,000 a year

The new Hillside Center, Chicago, Ill., is one of the country's largest and most modern shopping centers. Situated on a 59-acre site, it contains over 70 stores and offers parking space for nearly 5,000 cars. When Hillside Center was planned, exhaustive studies were made of prospective fuels . . . and it was decided to burn coal the modern way. For one thing, the initial economy of the mechanical system indicated coal. The cost of a complete coal system—boilers, coal and ash handling equipment, controls, etc.—fell within budget limitations. And, in view of limited space, the compactness of the system was an additional inducement. Finally, boiler room labor costs are at a minimum and actual operation savings with coal, compared to other fuels, is estimated at $26,000 a year.

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facts you should know about coal

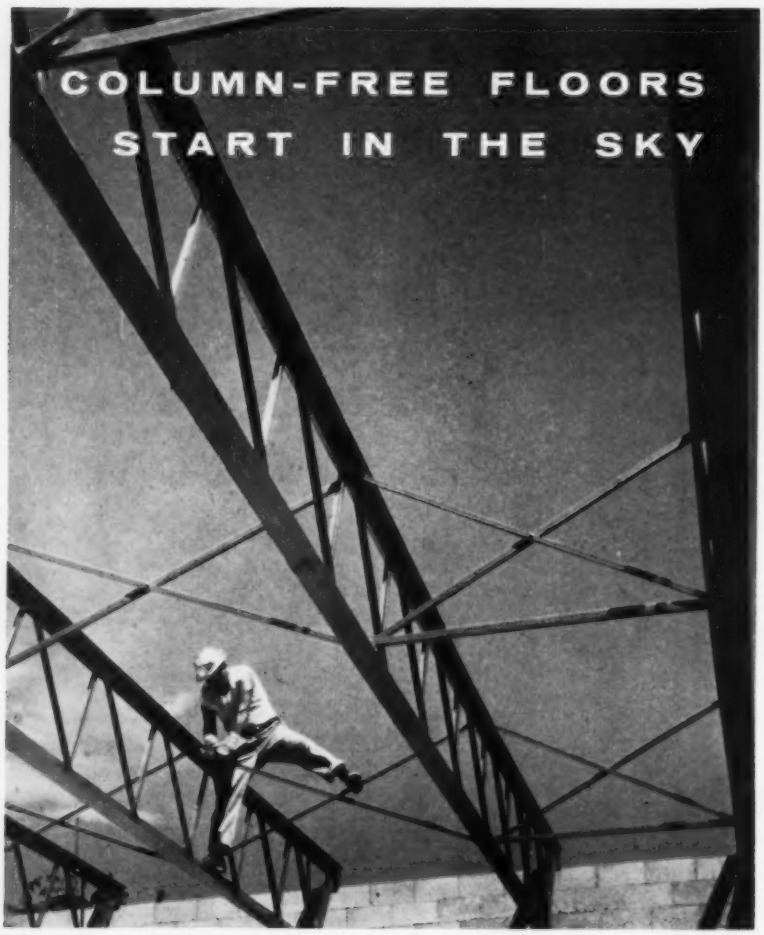
In most industrial areas, bituminous coal is the lowest-cost fuel available • Up-to-date coal burning equipment can give you 10% to 40% more steam per dollar • Automatic coal and ash handling systems can cut your labor cost to a minimum • Coal is the safest fuel to store and use • No smoke or dust problems when coal is burned with modern equipment • Between America's vast coal reserves and mechanized coal production methods, you can count on coal being plentiful and its price remaining stable.

THE RECORD REPORTS

CURRENT PERIODICALS

(Continued from page 342)

THE SATURDAY EVENING POST, December 8, 1956 (United States), carried a biography of that "Rebel in Concrete," Le Corbusier, by Ernest O. Hauser, one of the *Post's* associate editors. If, as Mr. Hauser thinks, the architect's lofty calling puts "his ego in constant danger of inflation," Corbu, "a crotchety, irritable, lovable person," as a genius among architects, has even more ego trouble than most. By his own testimony, the author would seem to be more a Wright man than a Corbu man, and made "humorous" references to Corbu's clients ("animated footnotes") and to his stilt buildings ("a damp and drafty nothing, favored by dogs and urchins"). His views about Le Corbusier as an architect and as a city planner ("not an acre of the planet's habitable surface escapes the pickax of his mind") were on the whole none too flattering, but Corbu's strength as a theoretical influence, while not perhaps receiving the author's approbation, he did not gainsay.



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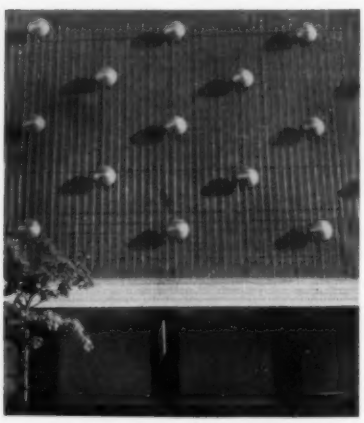
THIS IS JAPAN, 1957 (Japan), is the fourth English language annual published by the Tokyo newspaper *Asahi Shinbun.* Like its predecessors, the publication is nearly an inch thick, and covers Japanese life from food to industry to sports. Among the several articles on art are a chronology of Japanese art, pieces on Nara, the shrines at Ise and Izumo, historic castles (above, the 16th century Matsumoto Castle in central Japan, restored in 1950), domestic architecture, architectural photography (below, one of the winners in *Asahi's* competition, by photographer Yasuo Nishizawa) and examples of current architecture. The color plates, of which there are many, are stunning.



N.A.H.B. CORRELATOR, December 1956 (United States), the official organ of the National Association of Home Builders, fearing that such "superfluous and contradictory" descriptions as "Early American modern" and "Colonial ranch" confused both building industry and buying public, offered some definitions in this issue for the three

(Continued on page 346)

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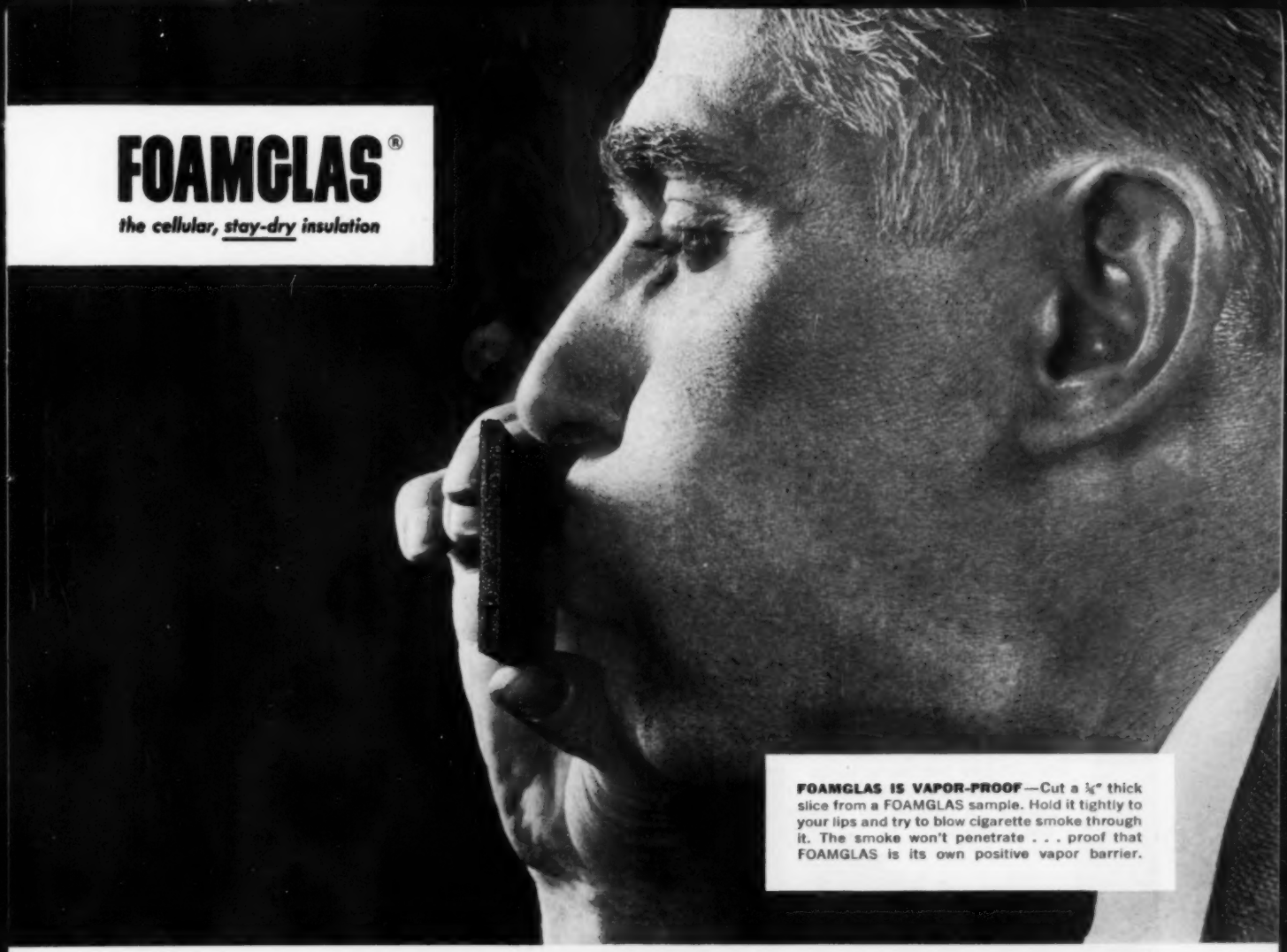

FOAMGLAS IS VAPOR-PROOF—Cut a ¼" thick slice from a FOAMGLAS sample. Hold it tightly to your lips and try to blow cigarette smoke through it. The smoke won't penetrate . . . proof that FOAMGLAS is its own positive vapor barrier.

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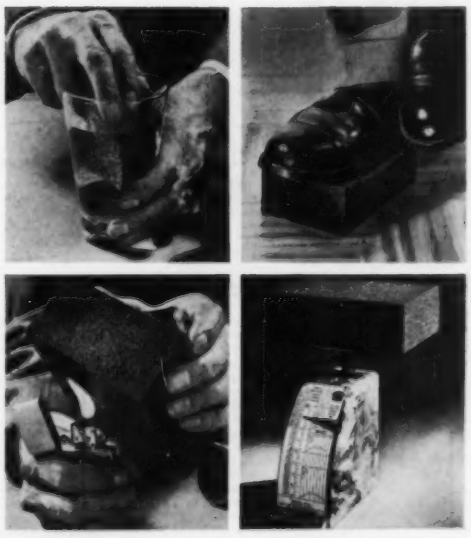

FOAMGLAS is waterproof . . . strong and rigid . . . inorganic and incombustible . . . lightweight

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THE RECORD REPORTS

CURRENT PERIODICALS

(Continued from page 344)

basic categories of present-day houses: traditional, modern and contemporary.

"Traditional," according to the *Correlator's* definition, "is probably best described as imitative of styles used in the early period of this country. . . . Features popularized and standardized in earlier times predominate." The distinguishing characteristics of modern design are "post and beam construction, flat roofs, glass walls, and stark, simple glass planes." As for contemporary design, the "house of today," it "incorporates a little from the past and some things from the future to create a harmonious mixture of warmth and functional comfort."

JOURNAL of the Royal Architectural Institute of Canada, August 1956, showed architects at leisure as recorded by an architect at leisure: Richard Neutra at "Session '56," an architectural conference held at Banff. Above: diners

SCHOOL ARTS, November 1956 (United States), related the experiences of some Philadelphia sixth graders solving problems in space design. The project, reported teacher Katharine McFadden, was "to emphasize the strength and solid construction of [the community's] buildings — to capture the feeling of distance and space — to show the play of light and shadow — and to make of it all a design that would be satisfying and exciting." Jumping the first, and most difficult, hurdle of observing the buildings as three-dimensional forms rather than "in terms of windows, doors, floors and other details," the students constructed cardboard models (below), later attempted free form "designs in space." Both projects, according to the teacher, were highly successful, though no students were reported to have expressed an early desire for an architectural career.

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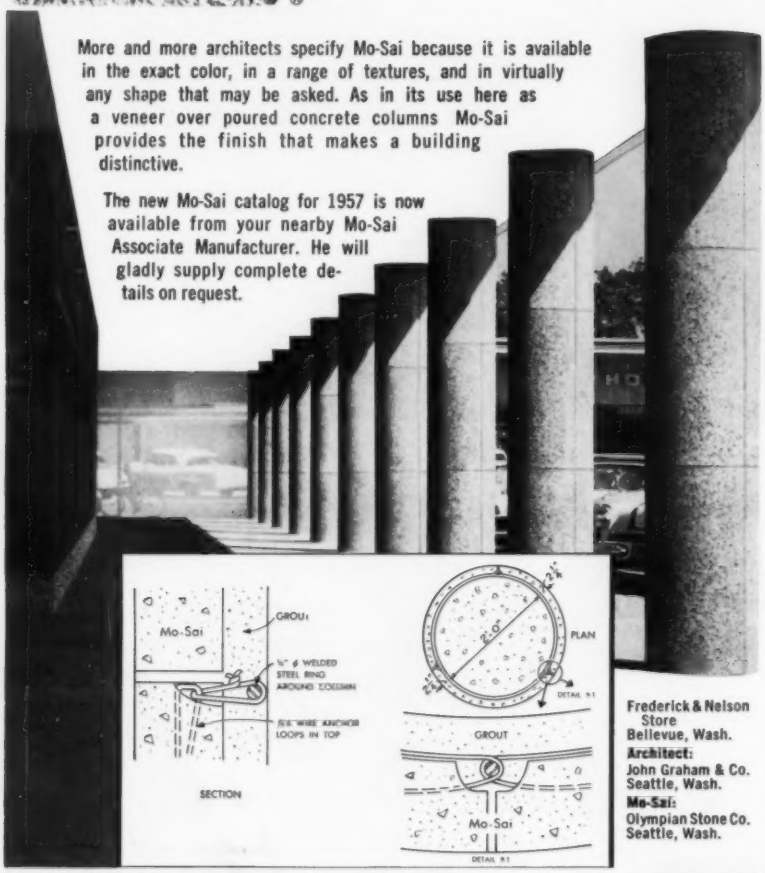

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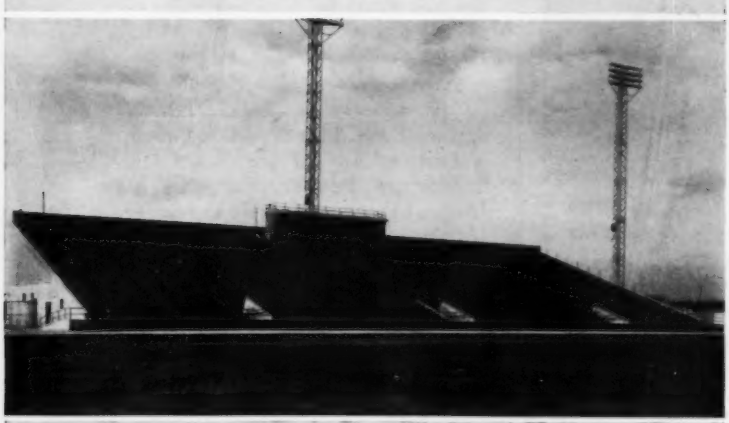
Steel Deck *Grandstands*

Top—the Dayton stadium layout. *Inset*—Press box, West Stand. *Above*—East Stand, capacity 5750.



West Stand, capacity 5550, with steel Press Box. Both stands have enclosed underdeck areas.

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MEETINGS AND MISCELLANY

(Continued from page 24)

Institute; Miss Ching-Hwa Hsaio, University of Washington; Jack L. Kesten, Massachusetts Institute of Technology; Albert S. Merker, Oklahoma A&M; and Peter W. Prout, University of Utah. . . . The engineering undergraduate mechanical and structural design competition sponsored by the **James F. Lincoln Arc Welding Foundation** of Cleveland has been won by Wayne Quinton of Seattle, University of Washington, who received the $1250 First Grand Award for his design of a small arc welded air compressor for home use. The Second Grand Award of $1000 was divided between John Tierney and Karl Bartzsch of New York, Cooper Union, who designed a welded Wichert plate girder to compare it for savings with an existing riveted girder on a Raritan River bridge. Third Grand Award of $500 went to Richard Moran, Canton, Ohio, Georgia Institute of Technology, for his comparison of a conventional riveted building with a welded rigid frame designed according to the relatively new theory of plastic analysis. In addition to the prizes received by the Grand Award winners, Lincoln also made scholarship fund grants to the winners' engineering departments. A total of 46 awards were made to students in 29 different engineering schools. A similar competition is being conducted this year. . . . Sidney L. Katz, A.I.A., of New York, has announced that Robert B. Braydon of Brooklyn is this year's recipient of the annual **Katz Waisman Blumenkranz Stein Weber Architects Associated Scholarship** for graduate study leading to the Master's Degree at Pratt Institute. Mr. Braydon is a recent architect graduate employed by the donor firm. . . . And a professor of architecture at **Clemson College** has won two South Carolina art awards while developing a new process for making lithographic prints which starts with a color crayon drawing on a sanded formica surface. Dr. Robert H. Hunter has won both an annual Artists' Guild of Columbia award and the M. Grumbacher Award at the sixth annual showing of the Guild of South Carolina Artists in Greenville, S. C. . . . **Scholarships:** Exercises preliminary to the selection of the sixty-eighth winner of the **Rotch Traveling Scholarship** will be held in April. Applicants must be American citizens whose architectural record includes study or experience in Massachusetts. A statement of requirements may be obtained by writing William G. Perry, Rotch Traveling Scholarship Committee, 955 Park Square Building, Boston 16, Mass., *before March 1.* All applications are due March 18. . . . At the **University of Illinois,** announcement has been made of the 26th annual consideration of candidates for the Kate Neal Kinley Memorial Fellowship, which provides $1300 for advanced study of the fine arts in America or abroad for Illinois "or equal" university graduates. Applications (due May 15) and instructions may be obtained by addressing Dean Allen S. Weller, College of Fine and Applied Arts, Room 110, Architecture Building, University of Illinois, Urbana. Also at the University of Illinois (and for graduates of Illinois only) the competition for the Francis J. Plym Fellowships in Architecture and Architectural Engineering has been announced. The Plym Fellowships each carry a stipend of $1700 for study and travel in Europe. Information from: Chairman Alan K. Laing, Department

(Continued on page 350)

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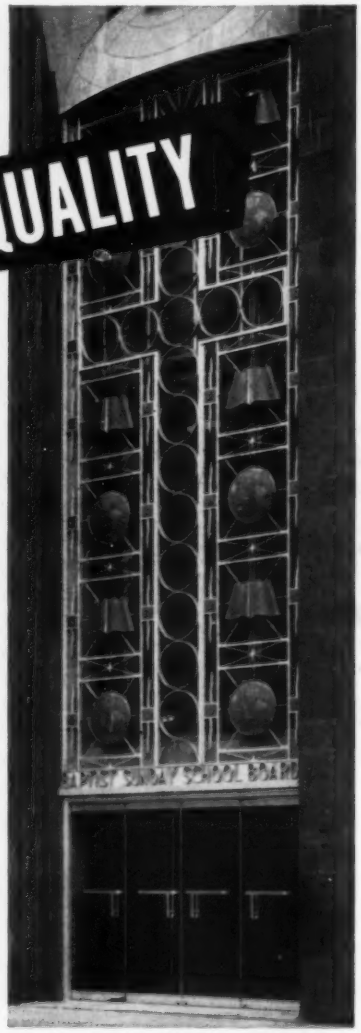

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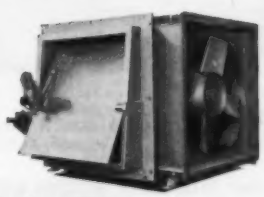

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THE RECORD REPORTS

MEETINGS AND MISCELLANY

(Continued from page 348)

of Architecture, University of Illinois, Urbana. . . . At the **University of Pennsylvania,** the Department of Land and City Planning of the School of Fine Arts, several research fellowships, graduate scholarships and assistantships ranging in value from $1500 to free tuition plus a stipend of $500 are available for graduate study in landscape architecture. Applications should be made before March 1 to the Dean, the School of Fine Arts, University of Pennsylvania, Philadelphia 4, Pa. . . . At **Pratt Institute** School of Architecture, two graduate assistantships covering tuition and a stipend of $1500 each will be awarded. Competition is open to qualified students in the U. S. and abroad. Applications to: The Dean, School of Architecture, Pratt Institute, Brooklyn 5, N. Y. . . . At **Princeton University** School of Architecture, graduate fellowships and scholarships for 1957–58 are available as follows: advanced fellowships, with stipends ranging from $1600 to $2200; fellowships, $1000 to $1800; junior fellowships, $800 to $1200; scholarships, $600. Competition is open to qualified students in U. S. and foreign countries. Address: The Secretary, School of Architecture, Princeton University, Princeton, N. J., before March 1. . . . **Competition:** Architectural students are invited to enter the **Architectural Design and Model Home Competition** sponsored by "Showcase for Better Living," the International Home Exposition to be held in New York's Coliseum May 4–12. The competition, which has the endorsement of the New York Chapter of the A.I.A., offers three prizes of $250 each and a grand prize of $750. Herman H. York, A.I.A., (of Long Island) is professional adviser. Address Mr. York c/o "Showcase for Better Living," Architectural Design Contest Committee, 250 West 57th St., New York 19, N. Y. . . . **Addenda:** A second **Conference on Urban Design** will be held April 12–13 at the Harvard Graduate School of Design. Attendance, by invitation only, will again be limited to 200. . . . An award of $12,000 for a **research program in landscape architecture** has been made by the Rockefeller Foundation to the Department of Land and City Planning of the University of Pennsylvania's School of Fine Arts. "The intent of this research," according to Prof. Ian L. McHarg, "is to initiate collection of seminal writing in landscape architecture with a view to ultimately publishing a fundamental library in this field." . . . The Department of Architecture of **Virginia Polytechnic Institute** announces that its five-year first professional degree will hereafter be designated Bachelor of Architecture. . . . A gathering of 60 graduates of the **New York University School of Architecture** — closed in 1947 — have recently met to initiate efforts to form an alumni association to include all former students of the school. The group also declared its aim to see the school reestablished. A committee headed by Stanley H. Klein (89–31 161st St., Jamaica 2, N. Y.) was established to organize the association. . . . And across the sea: in England, the Department of Architecture of the **Kingston School of Art,** Kingston-upon-Thames, Surrey, has been "recognized by the Royal Institute of British Architects for exemption from the Institute's examinations" — i.e., accredited. Kingston becomes the 21st "recognized" school of architecture in Great Britain.

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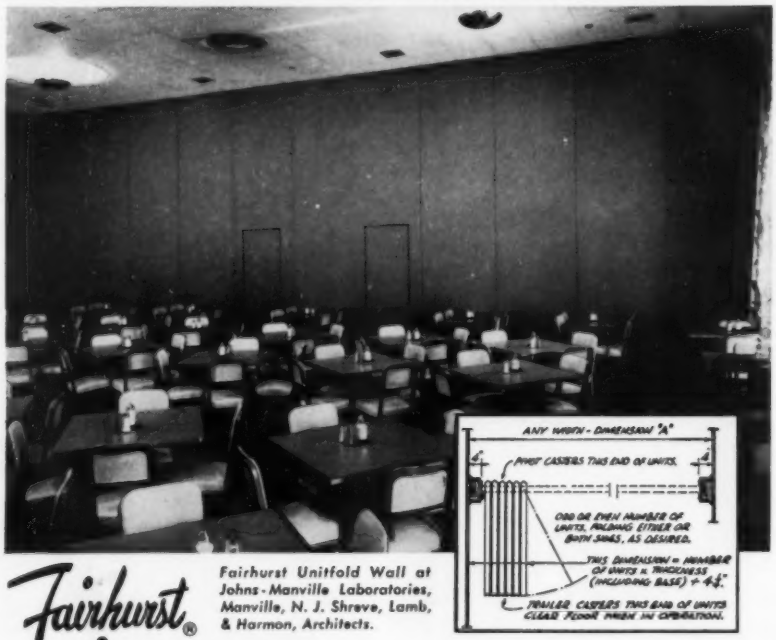
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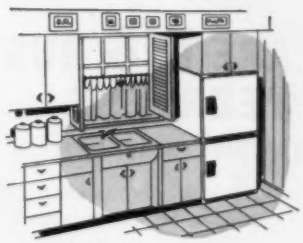

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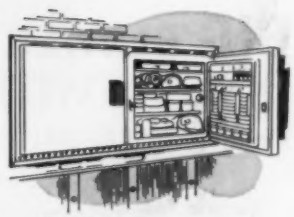

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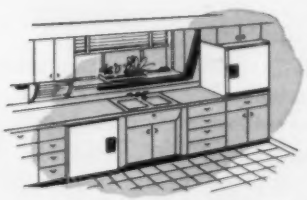

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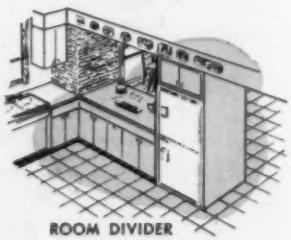

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THE RECORD REPORTS

WASHINGTON REPORT

(Continued from page 32)

to answer questions of essentiality, timing or priority, estimates of cost. It is felt that with such an information plan in being, all the facets of what has been a heterogeneous, hit-or-miss approach to planning public works throughout the country can fall more easily into place. This can only mean better integration of effort at all levels, less independent planning.

Coordinator Bragdon stresses that the suggested criteria against which states and local communities can define their needs are being worked up as guides only. There is no compulsion. His office hopes, however, that the local governments will accept the standards offered and cooperate within that framework. They have shown considerable interest to date, he said, but it remains to be seen what cooperation will be displayed.

These guides from Washington will be flexible enough for every locality to adjust its measurement of needs to them. Deviations are recognized; climate, relative wealth, and wants of the people vary widely from community to community. General Bragdon plans to state the national, or perhaps regional, "averages," then let the states and local governments pick their own detailed criteria for determining public works needs.

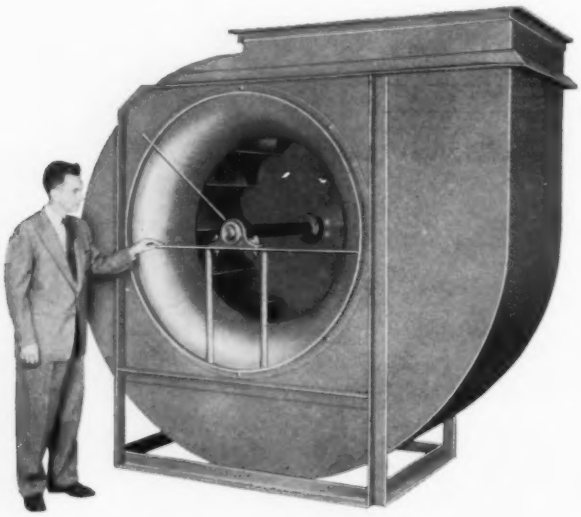
Meanwhile, the cataloging of planned public works continues with the Census Bureau compiling data once each two years. The first survey initiated by General Bragdon as Coordinator of Public Works, covering 1954, indicated state and local public works requirements alone exceeded $200 billion as of that time. A second biennial survey, scheduled to begin in July of last year, had to be postponed because no funds were available for it. Now funds have been made available, but the Census Bureau is too busy to undertake the project for the time being. An annual program still is sought, but funds will not permit it.

On the subject of development of balanced long-range plans, General Bragdon explains the latter is accomplished after the parent government has collected aggregate needs and assessed their relative urgencies.

"Long-range planning at this point will involve two distinct but related levels," he continues. "First, in a functional agency or department, such as a state highway department or a city sewerage department, the segments of needs in that functional category are weighed one against the other and functional priorities established. This results in a priority list of these functional segments supported by a feasible long-range program of construction and broad financial requirements. This having been done, the comprehensive planning unit of the parent government can proceed to weigh the relative urgencies of the functional fields and their segments one against the other.

"From this we derive a coordinated, composite list of the segments of all needs arranged in priority sequence and a balanced comprehensive program for their construction."

Inherent in the Administration's approach to the coordination of all public works planning in the country is what it calls the development of "stabilization plans." This concept would use long-range planning to provide the acceleration of public works in the event economic conditions made such action desirable.



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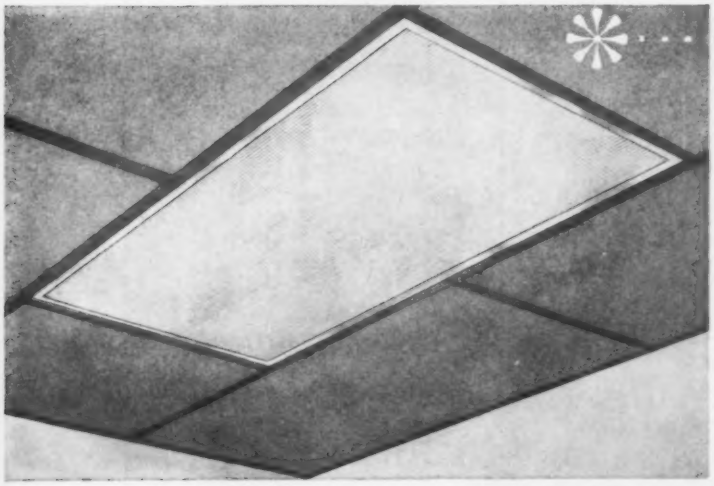

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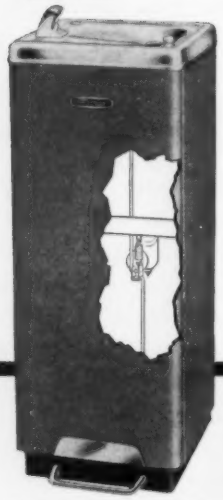

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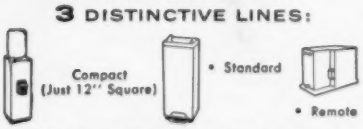

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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 48)

'58 AIRPORT ALLOCATIONS TO BE ANNOUNCED EARLY

The Civil Aeronautics Administration moved up announcement of its Federal aid allocations for airport construction to the first part of the year to "get the jump" on other construction projects.

For the first time the CAA was to make the announcement of its projects and allocated funds well before the fiscal year started, thus putting these airport construction jobs in a better position to compete with other building activity.

Under the 1955 amendment to the Federal aid-to-airports act, $63 million is authorized annually for matching funds in each of the following three fiscal years. Last June CAA announced a list of 368 building projects which are receiving $51.8 million in Federal funds for fiscal 1957, the current period.

In the CAA plans for asking Congress to continue this authority, close consideration is being given to the adequacy of airports to handle jet transport aircraft now under order in quantity.

CONTINUED RISE EXPECTED IN ARMY RESERVE BUILDING

Army Reserve facility construction will reach an all-time high during fiscal 1958, beginning next July 1.

At the end of last calendar year, the Army had 165 training centers for the reserves either under construction or completed. Construction was to start on another 116 by the end of this fiscal year, next June 30.

But a total of 494 projects are tentatively planned for fiscal 1958. These include training centers, maintenance shops, and some expansions or additions to existing centers. The goal is 1765 centers in operation by June 30, 1960.

The activity has been climbing steadily in recent years. A year ago there were only 89 centers in existence, 45 of them constructed more than five years earlier, before the present long-range program was launched.

Since 1950, Congress has appropriated $83 million for reserve facility construction. Of this, $4 million was contracted two years ago and $16 million was contracted in fiscal 1956. A total of $35 million was appropriated for fiscal 1957; and building in the 1958 fiscal year will approximate $118 million, the Army estimated.

(Continued on page 360)

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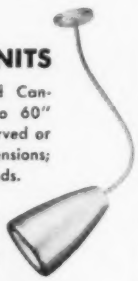

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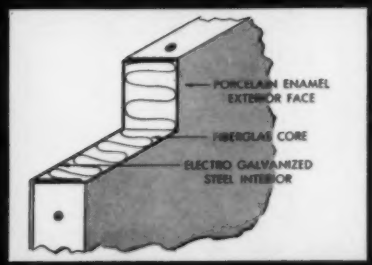

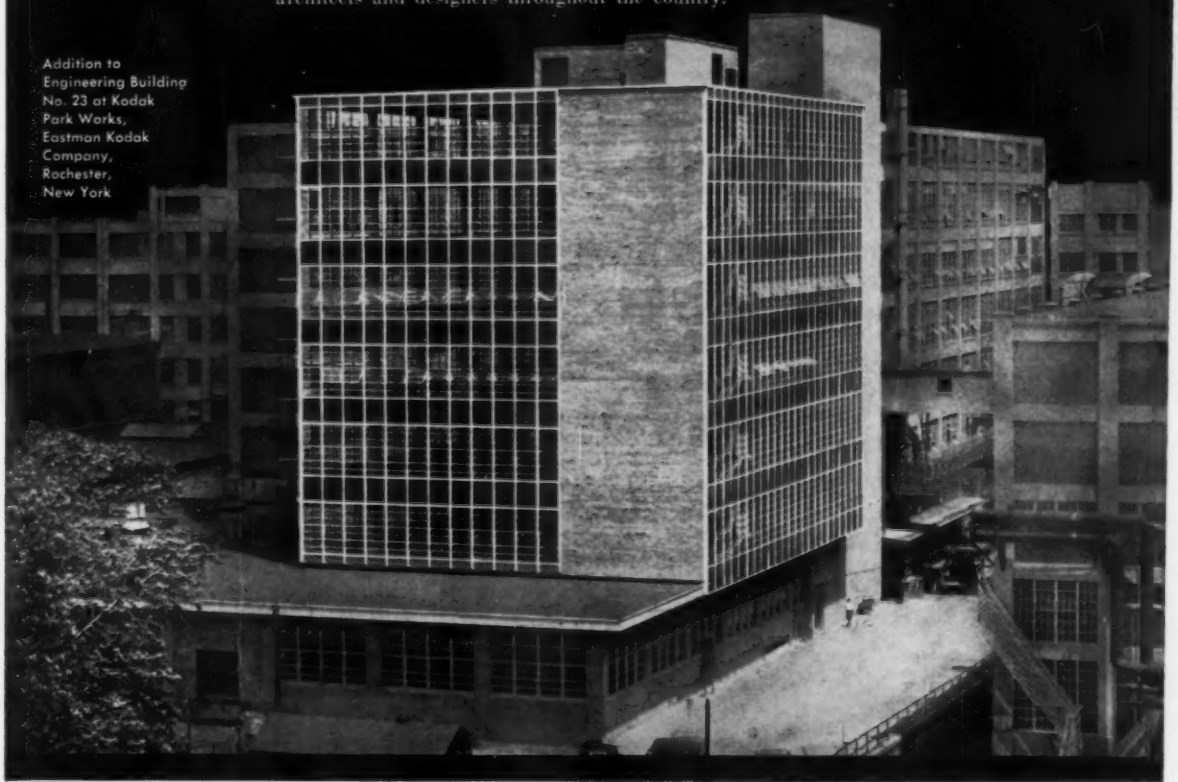

Addition to Engineering Building No. 23 at Kodak Park Works, Eastman Kodak Company, Rochester, New York

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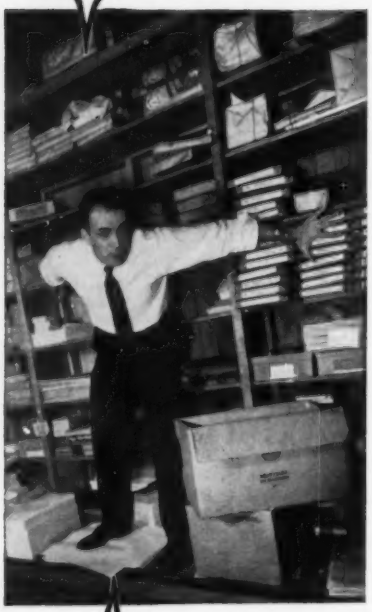

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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 356)

NO STAMPEDE YET TO BID ON LEASE-PURCHASE JOBS

The new bidding procedures recently announced by the General Services Administration for its lease-purchase buildings still were undergoing close scrutiny last month, with agency personnel speaking guardedly about reactions to two bid openings conducted under the new rules. Bucking the obstacle of a four per cent interest ceiling, this program has experienced considerable difficulty interesting both lenders and builders. The procedures underwent a drastic revision last fall in an effort to break down some of the reserve displayed by potential bidders.

December offerings brought only four bids of six projects. With the bids under study for a decision by late January GSA would not say to what extent the new procedures might have helped. Some of the bids received exceeded the agency's original estimates of cost, some were lower.

The principal change effected to offer potential subscribers a more attractive deal turned to so-called packaged bids. These were asked on a sale price to the government for the completed project including costs of arranging financing and an interest rate for amortization of the sale price in 10 or 25 years as specified.

In view of developments, Congress was sure to take a close look at the entire program with special scrutiny directed toward the limiting influence of the four per cent interest rate ceiling.

The current lease-purchase program included 98 approved projects throughout the country. Investment opportunities were said by GSA to approximate $700 million for this batch.

HEW REPORTS ON PROGRESS IN CONSTRUCTION PROGRAMS

The construction programs under the jurisdiction of the Health, Education and Welfare Department saw progress during 1956. Major among these were hospitals and schools.

More than 200 hospitals were constructed or in process of building during the calendar year under the Hill-Burton act, according to the Department's year-end statement. In addition, more than 200 nursing homes, rehabilitation centers, chronic disease hospitals,

(Continued on page 364)

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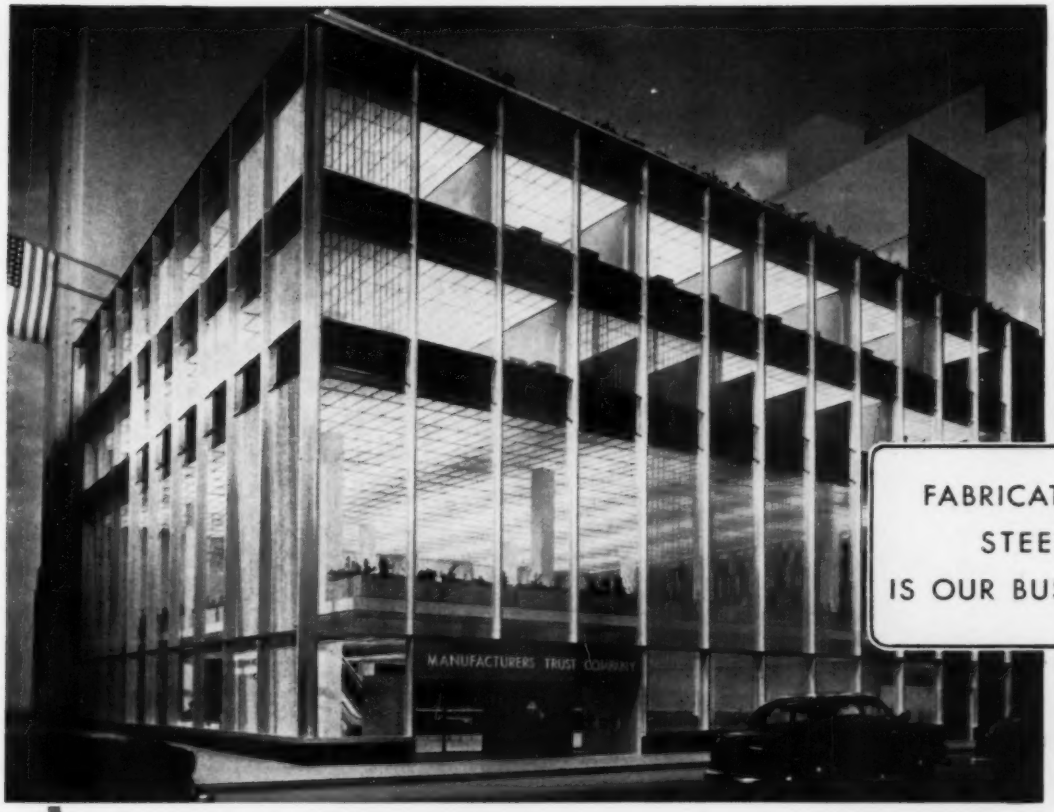

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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 360)

and diagnostic and treatment centers were approved for construction.

New attention was directed to the school classroom shortage as enrollments mounted. The HEW comment: "Strenuous efforts by state and local authorities have reduced classroom shortages in certain areas, but the situation still remains grave. About 62,600 classrooms were built last school year, which is a new record. With enrollment continuing to increase rapidly, however, all indications are that the shortages will remain acute in the coming years unless Federal assistance is provided."

The Department noted progress in environmental health activities, too, citing its first function in assisting the states with construction of sewage treatment works. The air pollution control program was a part of the environmental health efforts.

FHA BEGINS TO PLAN FOR HIGHWAY PROGRAM IMPACT

The Federal Housing Administration has established liaison between its field offices and principal field locations of the Bureau of Public Roads in recognition of the impact of the expanded highway program on housing development.

The FHA directors have been advised by Washington headquarters that the limited access characteristics of modern highways to be built under the program will require "due consideration of orderly housing development and growth in relation to them."

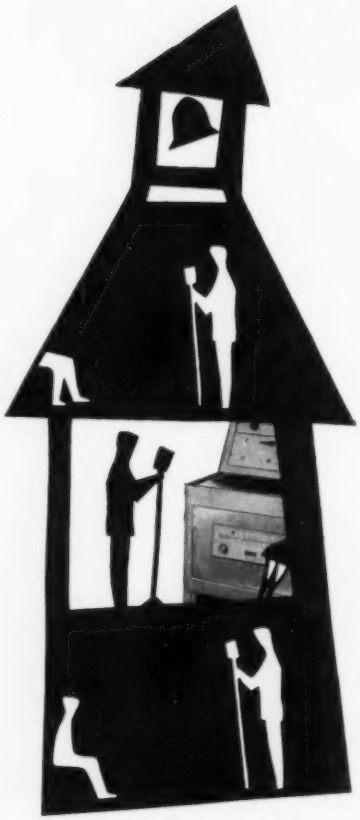
The relocation of displaced families in the clearing of blighted areas to make way for the super-roads is of direct interest to the agency with its latest insured-mortgage programs. It is felt the value of suburban home developments can be raised considerably by the new traffic patterns that will be established by this network of modern highways.

CAPEHART HOUSING PROGRAM GETTING INCREASED EMPHASIS

The Defense Department has decided that smaller units of housing for its personnel are not only more attractive than row housing but also come within the bidding scope of smaller contractors.

This decision recently led to a policy switch which means greater reliance

(Continued on page 368)



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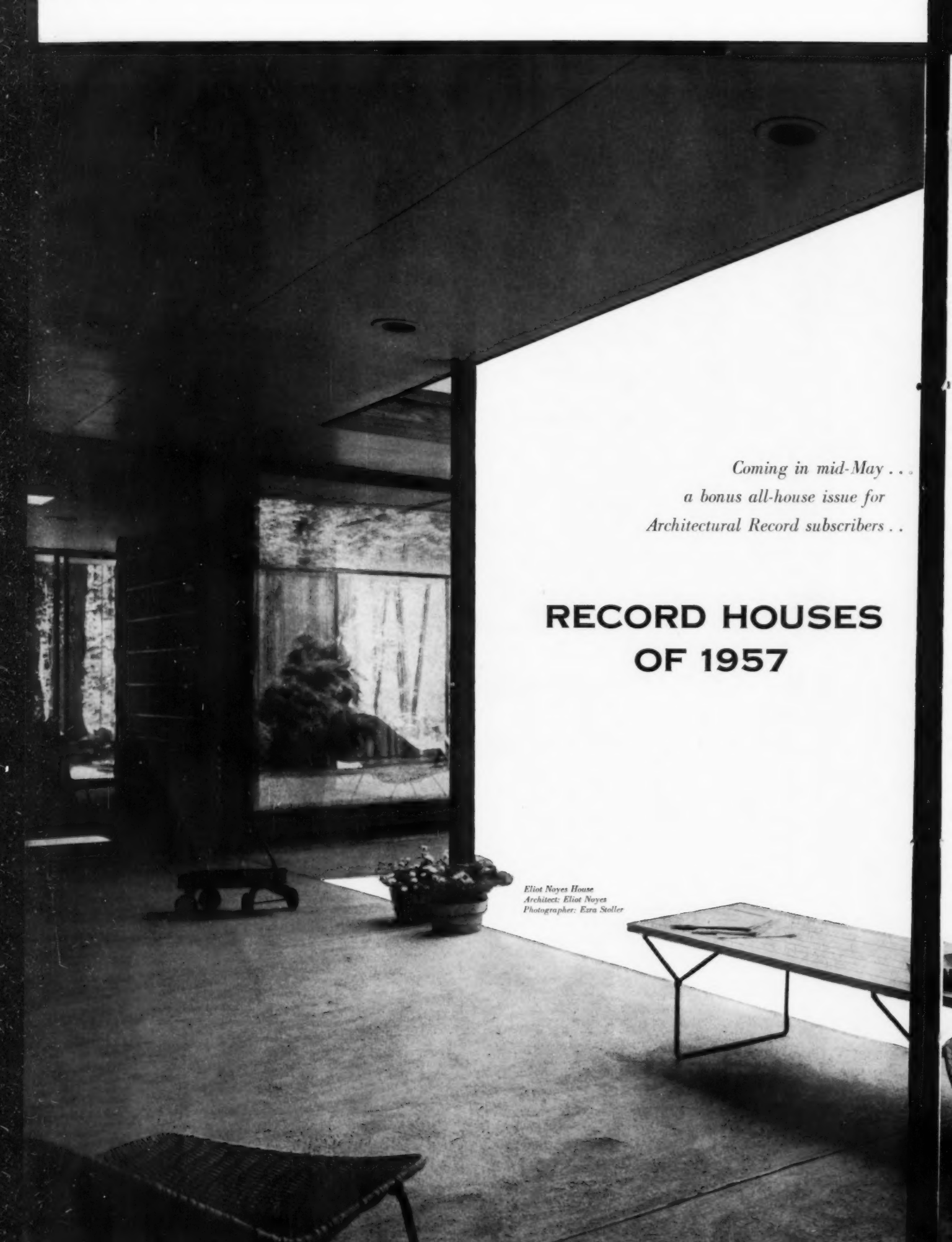

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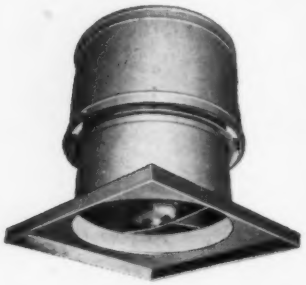

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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 364)

will henceforth be placed on the Capehart housing program, this at the expense of appropriated funds. Base commanders have been told that the direct fund housing will be requested only under special conditions where it is not feasible to provide Capehart shelter. The latter is constructed with private government-insured funds.

The services now want as much of their Capehart housing as possible to be erected as one, two and four-family units rather than in row-type housing or large apartment buildings.

Where there is sufficient existing space of good quality, the Defense Department will not build, it said. The available housing, however, must be reasonably priced and within easy commuting distance of the installation it is expected to serve.

The Capehart program was virtually stalled on dead center last fall when Federal Housing Administration boosted its allowed rate on insured loans to five per cent. The top limit on Capehart was four.

Field commanders were urged to follow a positive public relations policy in trying to impress local officials, builders, and realty groups of the need for suitable shelter for military families.

CEMENT SUPPLY OUTLOOK EXPECTED TO STAY TIGHT

Cement may be in tight supply again this year. That's the view of a House Small Business Subcommittee under Rep. Wright Patman (D-Tex.). A recent report from this group, based on answers received from cement producers to a committee's questionnaire a year ago, indicated that successively larger shortages of Portland cement might be in prospect for future years.

In summary, the report said that a slight deficit in 1957 and increasing deficits in subsequent years are in prospect if the relationship between cement consumption and construction activity prevailing in the years 1946 to 1954 continues.

Statistics in the report show expansion plans calling for a gross addition of 73 million barrels of new capacity between the end of 1955 and the year 1960. Of this, 55 million barrels are scheduled in addition to existing plants and the other 18 million would come in 13 new facilities.

(Continued on page 372)

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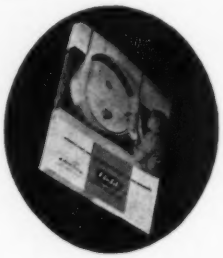

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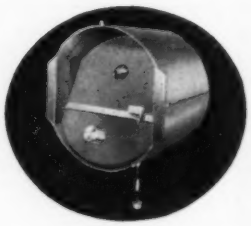

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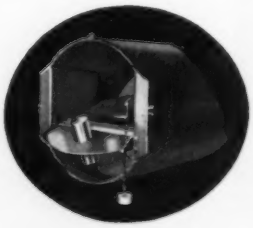

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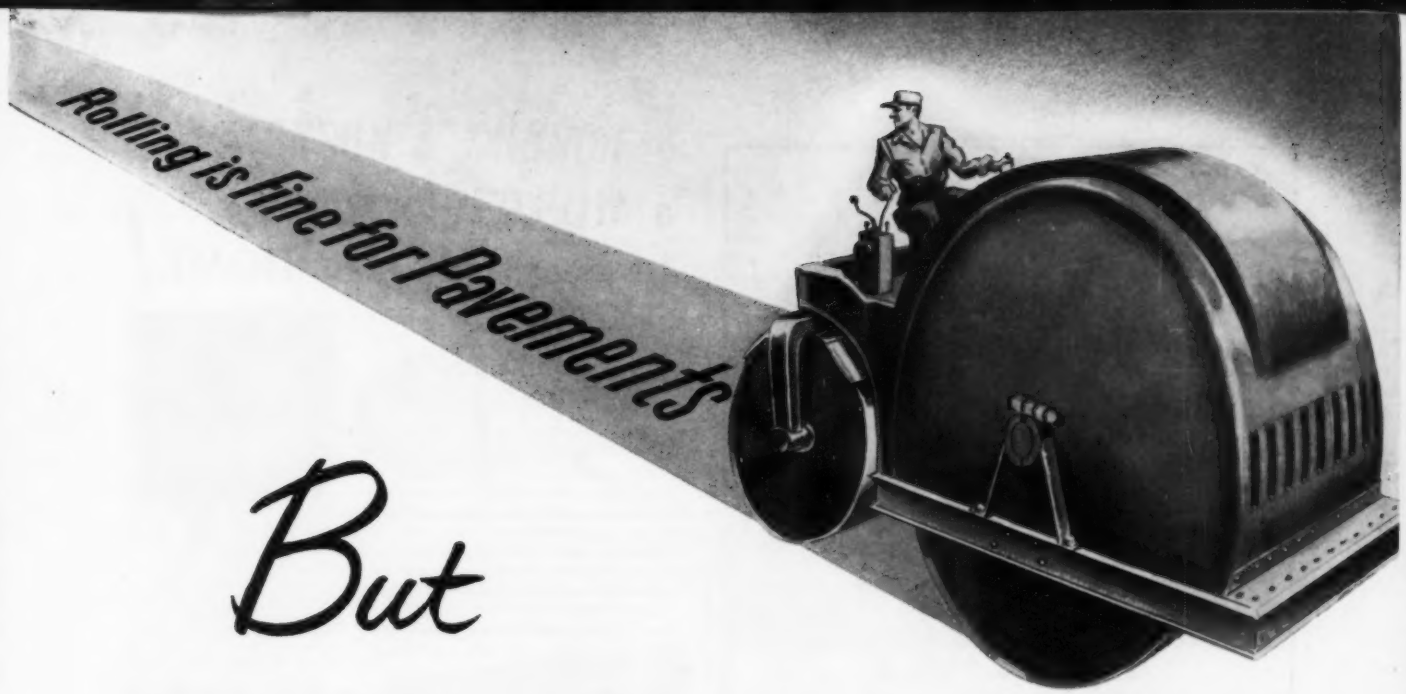

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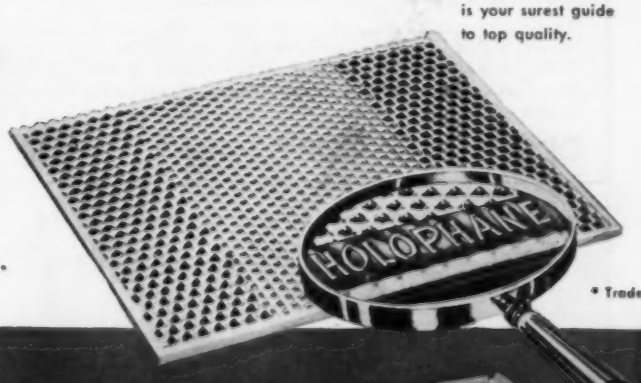

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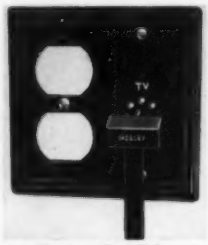

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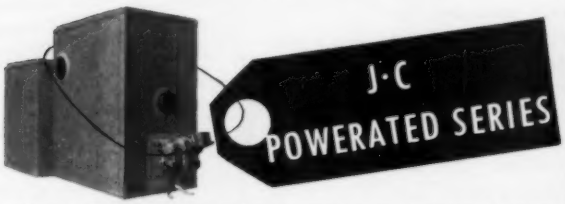

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THE RECORD REPORTS

WASHINGTON TOPICS

(Continued from page 368)

ADDENDA

Producers of perimeter insulation for concrete floors on ground were given an additional six months by the Federal Housing Administration in which to perfect test procedures for qualifying their materials under Minimum Property Requirement revisions. FHA had announced that beginning January 1, it would consider only those materials which had been qualified under certain test procedures as complying with MPR Revision No. 54. It now appears that the January 1 date was too early to permit the necessary tests, so the deadline was extended to July 1.

Financing problems and possibilities occupied much of the discussion time at the first meeting of the Housing and Home Finance Agency's new Advisory Committee on Housing for the Elderly (AR, Jan. 1957, page 32). One suggestion envisioned a privately-owned and operated (but Federally authorized) corporation which would purchase FHA-insured and VA-guaranteed loans and sell debentures to encourage a flow of mortgage money for such housing; the immediate question, of course, was how readily such debentures would sell without the direct backing of the Federal government. HHFA Administrator Albert M. Cole, addressing the committee session, said he visualized the committee as "a vehicle for the development of broad policy recommendations as to the role of the Federal government in providing housing for the elderly."

Data on the use of small-size (eight inches or less in diameter) residential street sewer pipe is being developed in a new study undertaken by a Building Research Advisory Board advisory committee under a contract with a Federal Housing Administration. The study, intended to provide criteria to aid FHA in establishing requirements related to the subject, seeks to determine: (1) whether residential sewers are being built larger than necessary; (2) whether over-designing, if indicated, has incurred unnecessary expense; (3) if small-size pipe is feasible in view of frequent terminal extensions necessary to service additional housing; and (4) if small-size pipe requires impractically steep grades.

(Continued on page 376)

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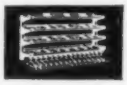

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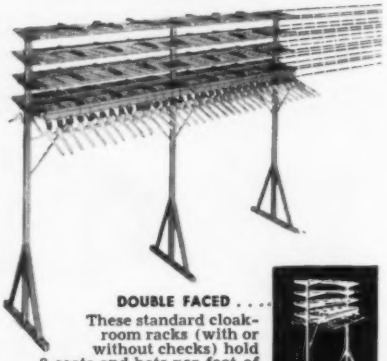

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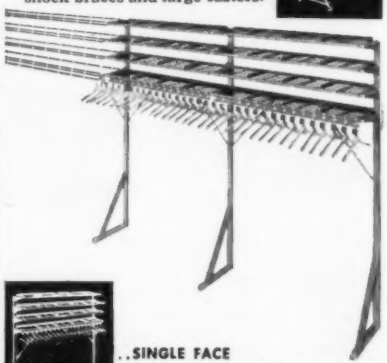

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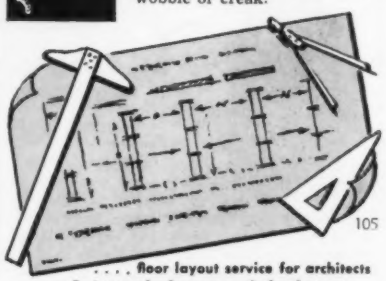

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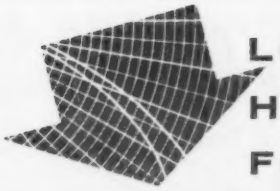

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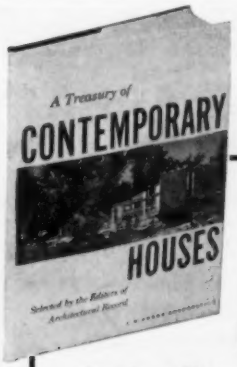

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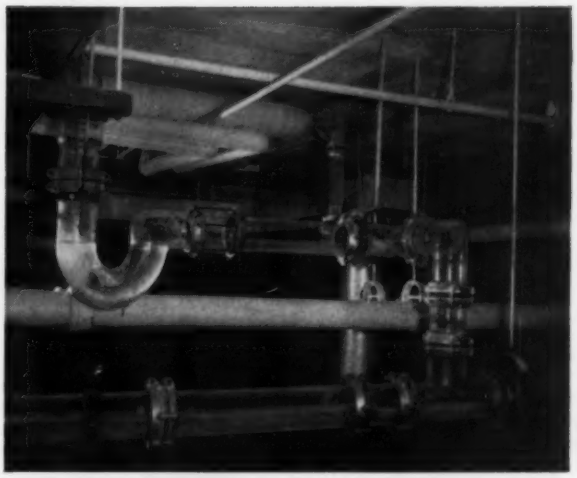

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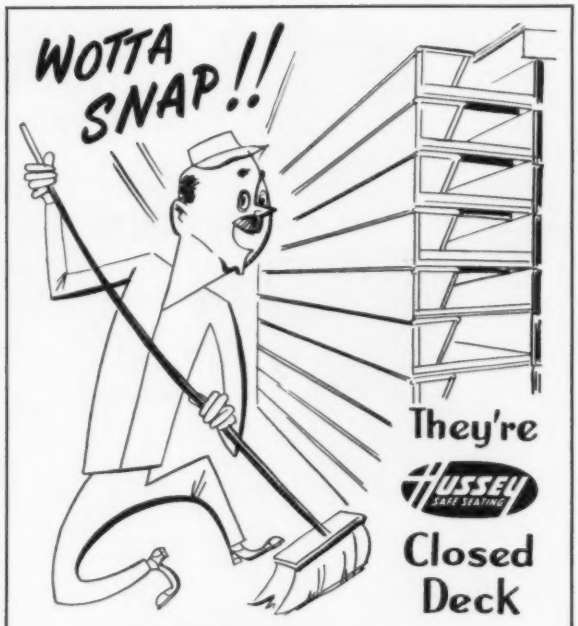

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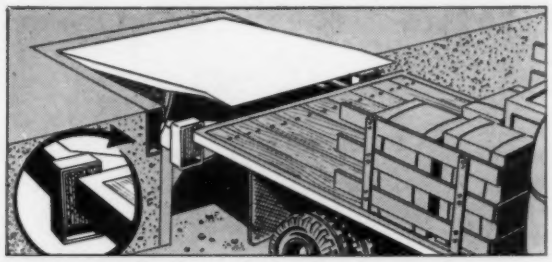

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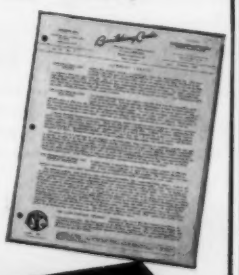

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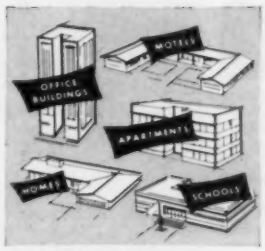

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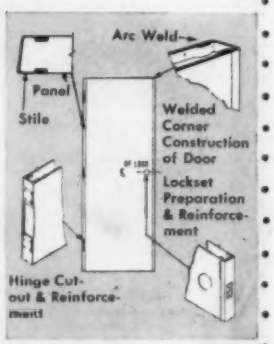

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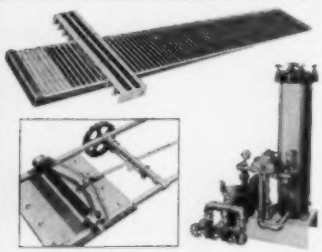

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WASHINGTON TOPICS

(Continued from page 372)

An "emergency program" of Federal aid to encourage the establishment of public community colleges has been proposed by Senator Clifford P. Case (R-N.J.) "to provide classrooms for the more than half million qualified young men and women who will otherwise have no place to go in the next five years." Senator Case proposed establishing and expanding two-year colleges through grants-in-aid to the states. Under his plan, funds of up to one third the cost of building and equipping academic structures would be distributed to states choosing to take part.

Amid preparations for the formal launching of the 1957 "Operation Home Improvement" campaign at the First National Home Improvement Congress February 1–2 at Tucson, President Eisenhower sent Housing Administrator Albert M. Cole a message praising the effort, which has been jointly promoted by the building and lending industries. The President commended these industries for "the splendid job they have done in making 1956 such a successful 'Home Improvement Year'." The President also predicted that 1957 will be a "banner year for Operation Home Improvement," with "continued progress in this important area of our economy" and added that "the modernization of our peoples' dwelling places has the wholehearted support of Federal, state and local governments."

Grants totaling $25,460,467 have been approved by the Public Health Service to aid institutions in 24 states and the District of Columbia in the construction of additional health research facilities. It was emphasized in the announcement by Surgeon General Leroy E. Burney that all 73 grants approved—upon recommendation of the National Advisory Council on Health Research Facilities—are for construction of facilities and not movable equipment. "The Council felt," he said, "that, in order to get more facilities under way more rapidly with currently available funds, and in face of the large need as shown by the $66,888,239 in completed applications, and $49,160,774 in letters of intent from institutions desiring to apply for aid, it should provide awards this first year of the program for buildings."

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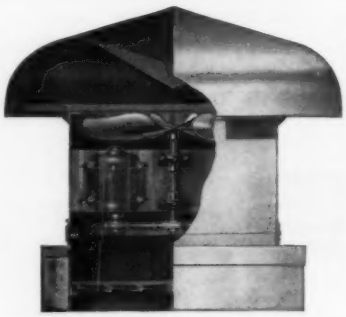

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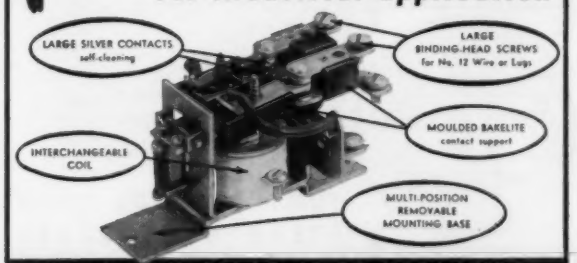
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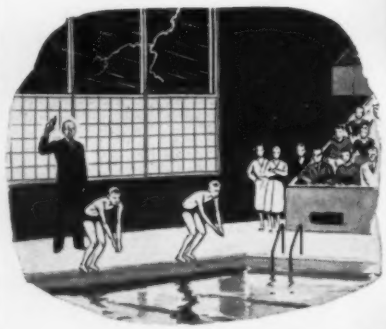

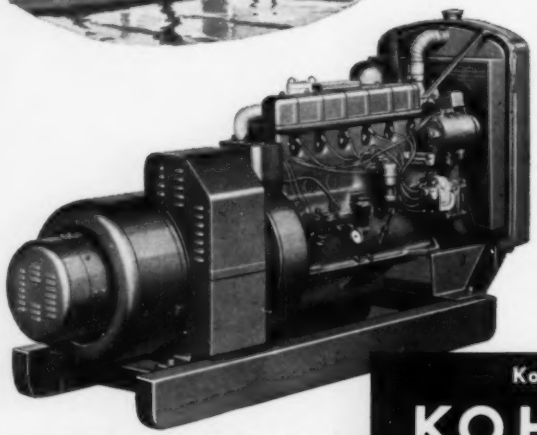

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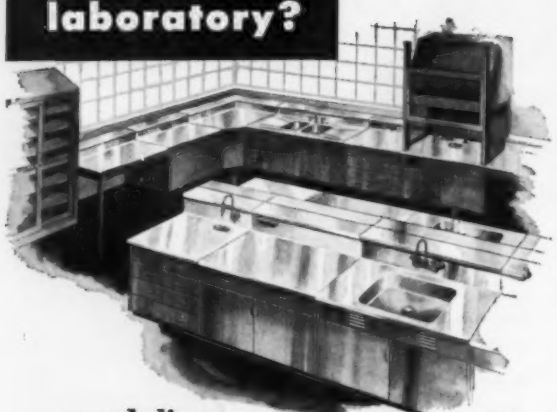

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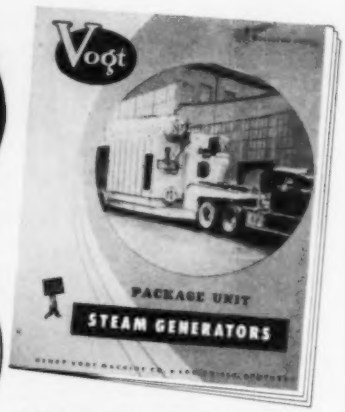

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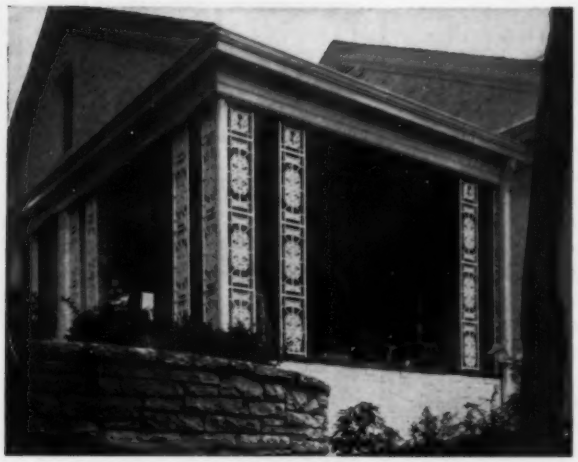

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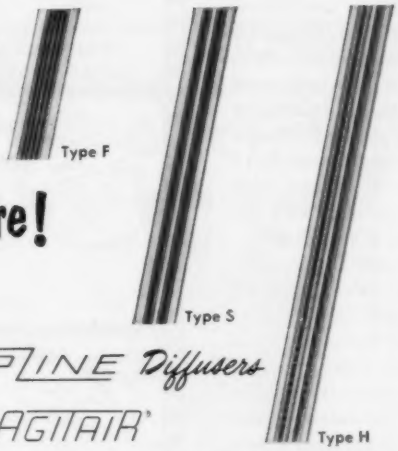

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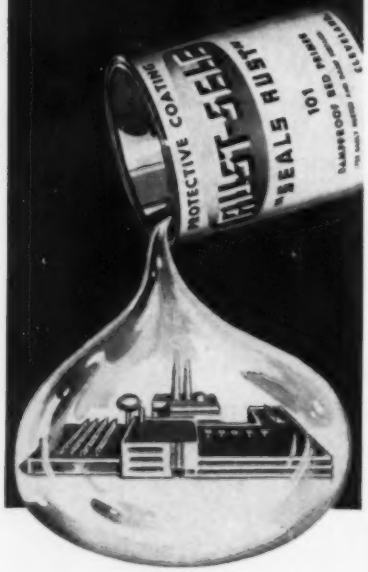

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REQUIRED READING

(Continued from page 66

be or may have been. Sculpture and paintings are given the same treatment.

A third section contains excellent plan drawings, along with descriptive and historical notes on the works selected for illustrations. Main attention is focused on architecture, which distinguishes this book in that it is one of few Egyptian art studies to give architecture an adequate coverage.

This handsome book would certainly be a proud possession for art enthusiasts.

D. T.

PAVING THE WAY FOR GLASS

The Kawneer Story. By Thomas Stritch. Illustrated by Philip Reed. Kawneer Company, Publishers (Niles, Mich.) 1956. 123 pp. Illus.

One of the most interesting public relations gimmicks to come out of the past year is a little book published by the Kawneer Company to celebrate its golden jubilee (1906–1956). The book tells the story of Kawneer and of Kawneer's founder, Francis J. Plym.

Plym was an emigrant from Sweden who had been brought to the United States by his parents in 1871. He was 24 at the time of the Chicago World's Fair, and it was there that he resolved to work his way through college and become an architect. He did, and not long after he received his degree, he began working on an invention. This book is interesting from an architectural point of view because the development of Plym's invention — and the Kawneer Company — run parallel with the development of modern architecture and the changing face of America's Main street.

Plym's invention was a resilient metal framing for glass to replace the wooden one whose inefficiency had bothered him. In the new metal framing, glass didn't crack because of rotted frame; and the possibility of new expanses of uninterrupted glass supported by metal framing became evident. Architects not only welcomed the new device, they clamored for it; hence, the Kawneer Company was established in 1906, and is still producing a refined version of the original metal framing today (along with a healthy list of other architectural products).

The book is crisp and fun to read, and is an interesting commentary on the history of American architecture.

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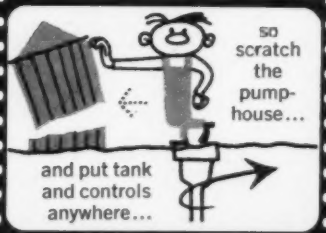

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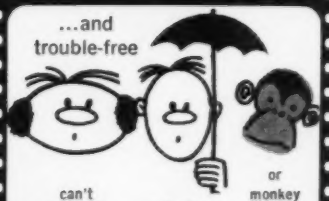
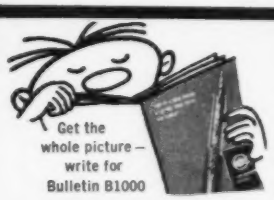


can't freeze it

or flood it

or monkey with it



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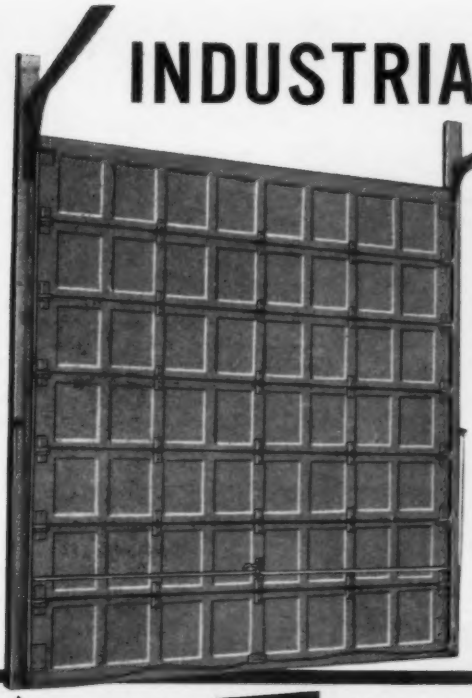

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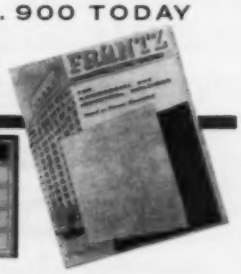

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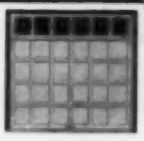

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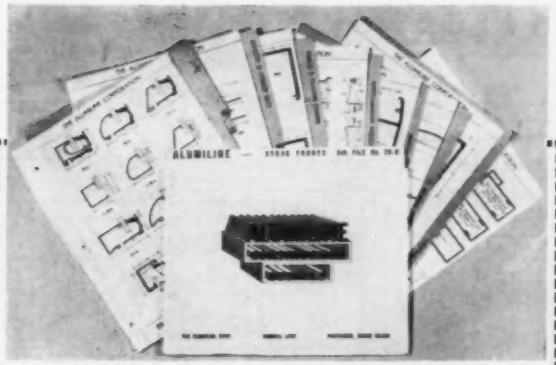

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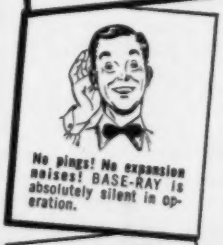

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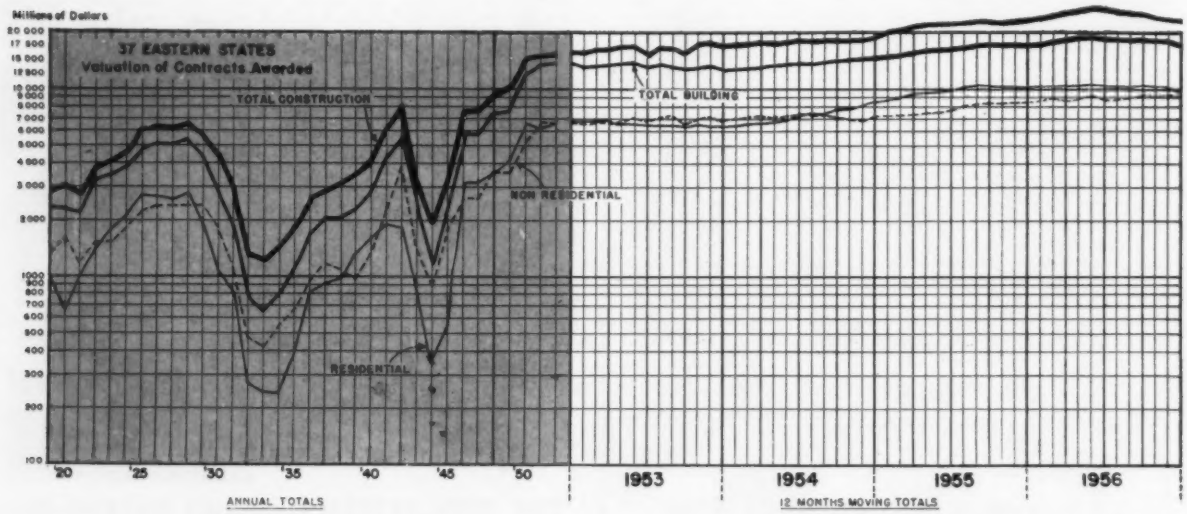


YEAR-END TOTAL TOPS ALL OTHER RECORDS

Contract totals in the 37 eastern states established a new yearly record in 1956 with $24,412,630,000 in awards, according to figures released by F. W. Dodge Corporation. This total, three per cent higher than the 1955 total, did show a leveling off of the continuing climb in building awards — the increase, Dodge noted, was more moderate than any yearly increase since the end of the war. Cumulative awards for the year set records in two categories: nonresidential, at $9,005,948,000, six per cent higher than 1955, and heavy engineering, at $5,580,222,000, up 10 per cent. Residential awards, however, although the second highest ever reported for a single year, fell four per cent below the 1955 figure for a total of $9,826,460,000. Awards in December 1956 for the fourth consecutive month fell below the corresponding 1955 figure — at $1,575,897,000, they were 18 per cent lower. In the same month, heavy engineering contracts set a new monthly record at $502,029,000, up four per cent over December 1955; but other awards dropped below the 1955 level — residential, at $450,646,000, was down 37 per cent, and nonresidential, at $623,222,000, was down 14 per cent.

Source: F. W. Dodge Corporation

INDUSTRIAL BUILDINGS *

Contracts Awarded — 37 Eastern States

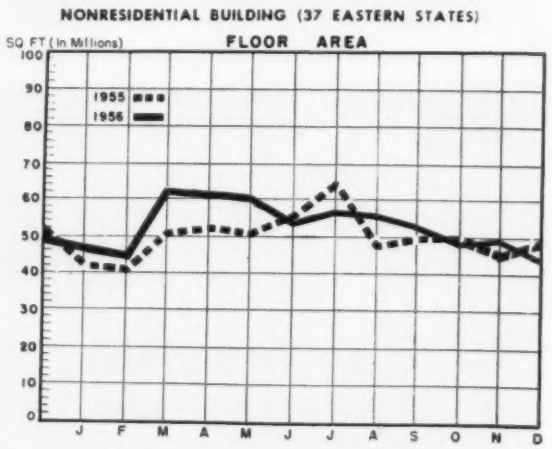
Floor Area (in thousands of sq ft)

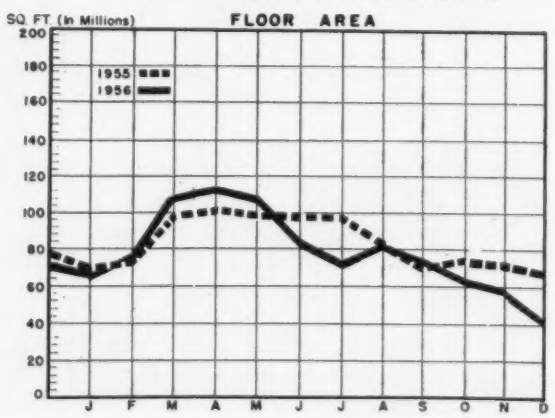
Year	Annual Total	Monthly Average	Year	Annual Total	Monthly Average
1929	105,524	8,794	1951	148,231	12,353
1935	20,638	1,720	1952	114,823	9,569
1940	94,772	7,898	1953	111,687	9,307
1943	105,822	8,819	1954	100,200	8,350
1947	142,990	11,916	1955	124,815	10,401
1950	114,860	9,572	1956	146,562	12,214

Monthly Totals	1955			1956	
Jan.	6,414	July	11,710	Jan. 11,076	July 11,482
Feb.	10,242	Aug.	10,385	Feb. 12,071	Aug. 12,252
Mar.	8,848	Sept.	13,503	Mar. 16,534	Sept. 12,351
Apr.	11,114	Oct.	13,334	Apr. 14,674	Oct. 10,647
May	9,855	Nov.	10,065	May 13,092	Nov. 10,414
June	9,547	Dec.	9,798	June 12,156	Dec. 9,812

* Industrial buildings are the subject of Building Types Study No. 243, pages 207–234.

Charts by Dodge Statistical Research Service





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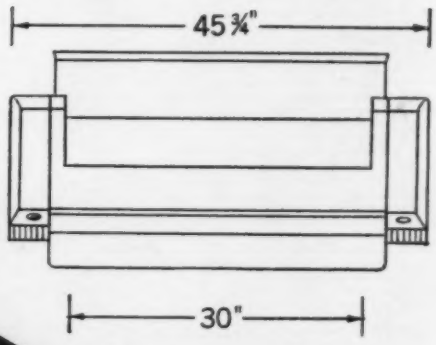

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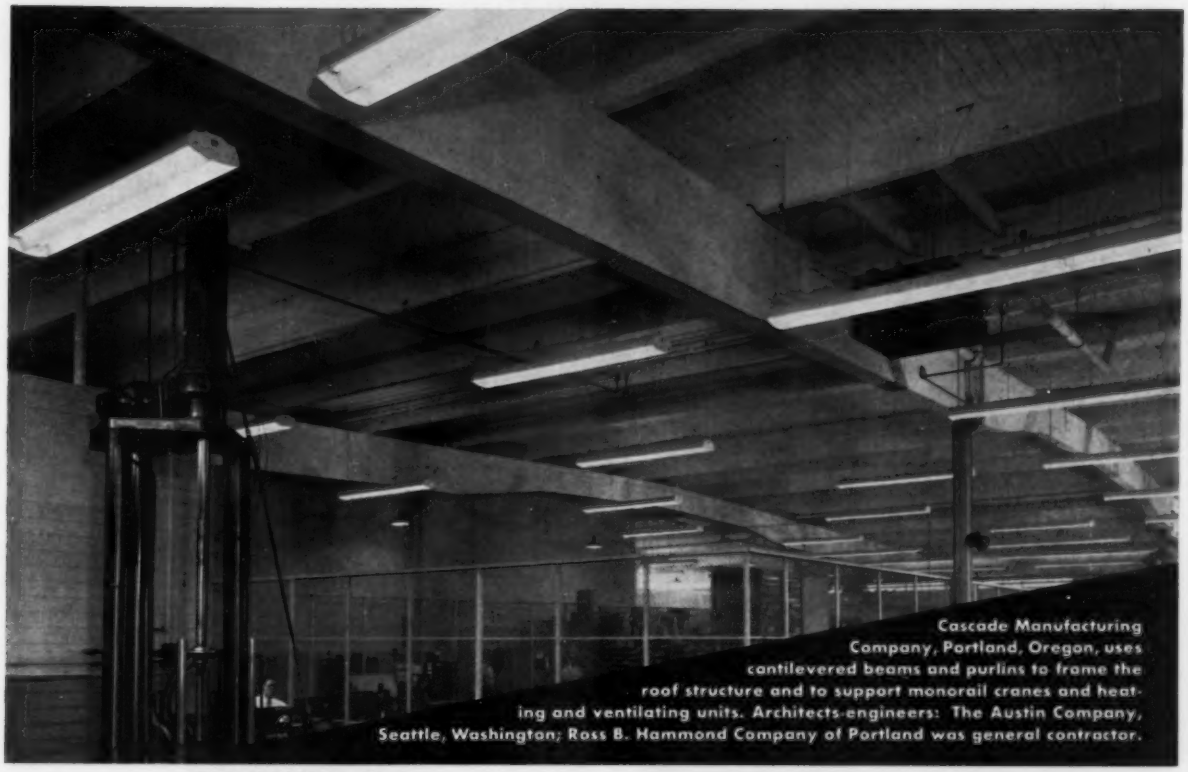

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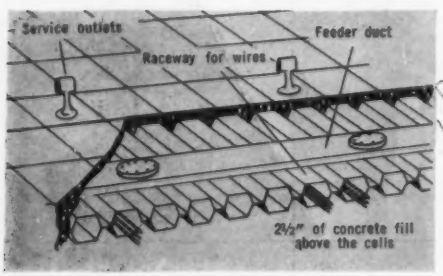

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C-1

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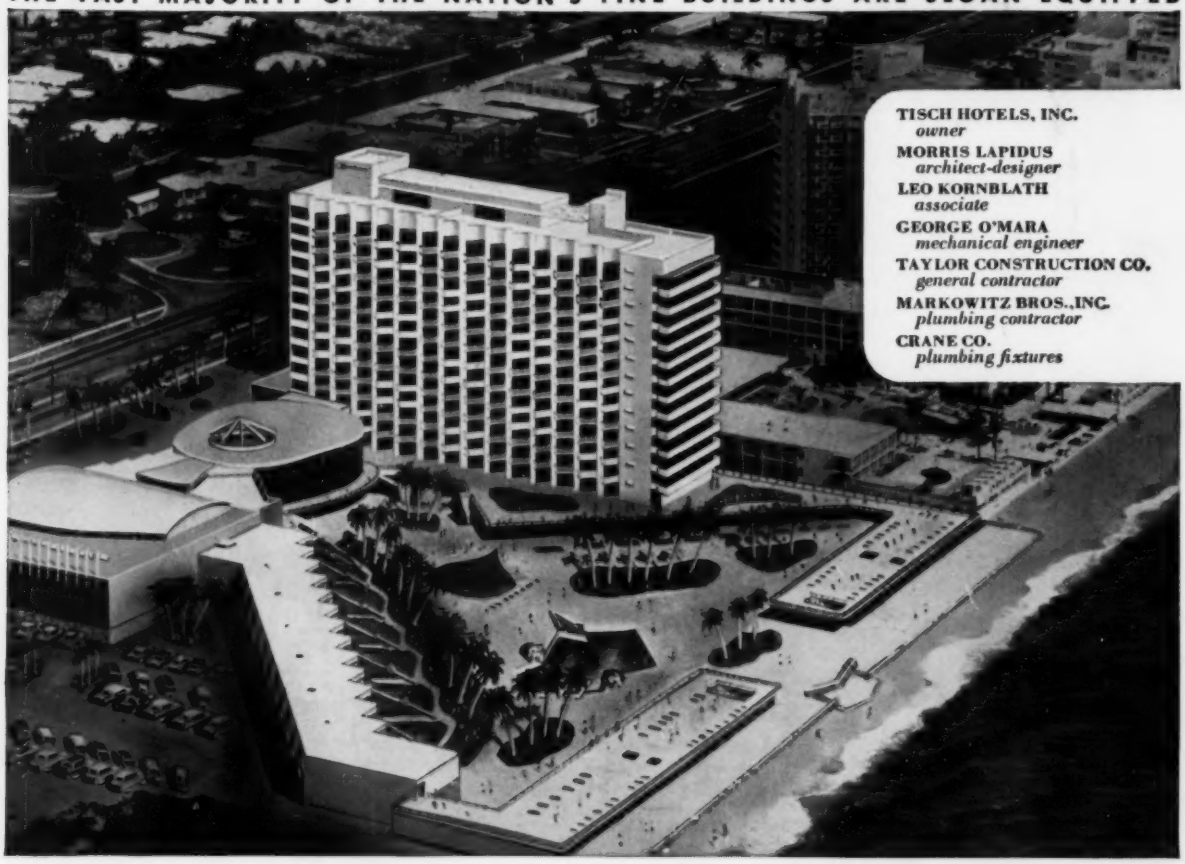

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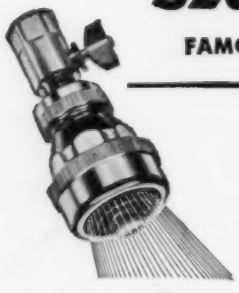
FAMOUS FOR EFFICIENCY, DURABILITY, ECONOMY

SLOAN VALVE COMPANY • CHICAGO • ILLINOIS



Another achievement in efficiency, endurance and economy is the SLOAN *Act-O-Matic* SHOWER HEAD, which is automatically self-cleaning each time it is used! No clogging. No dripping. Architects specify, and Wholesalers and Master Plumbers recommend the *Act-O-Matic*—the better shower head for better bathing.

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